

SUPPLEMENT.

The Mining Journal, RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

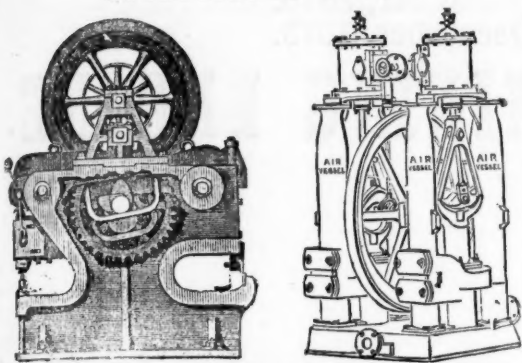
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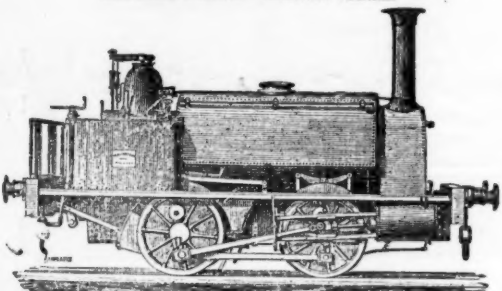
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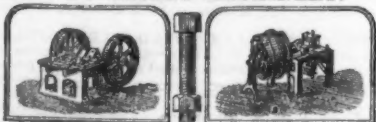
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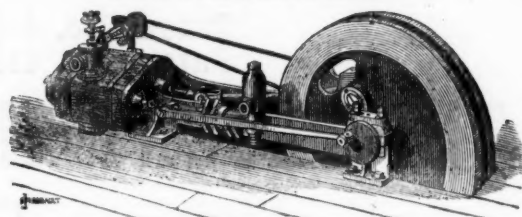
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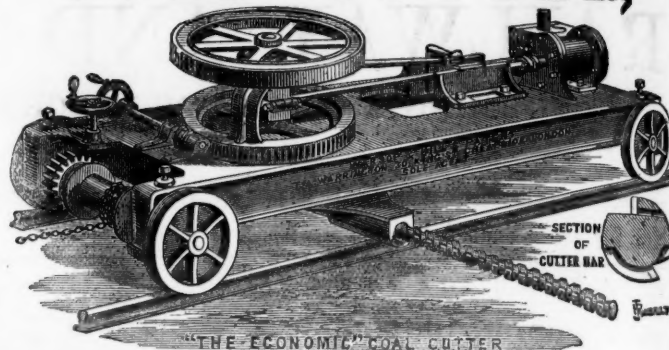
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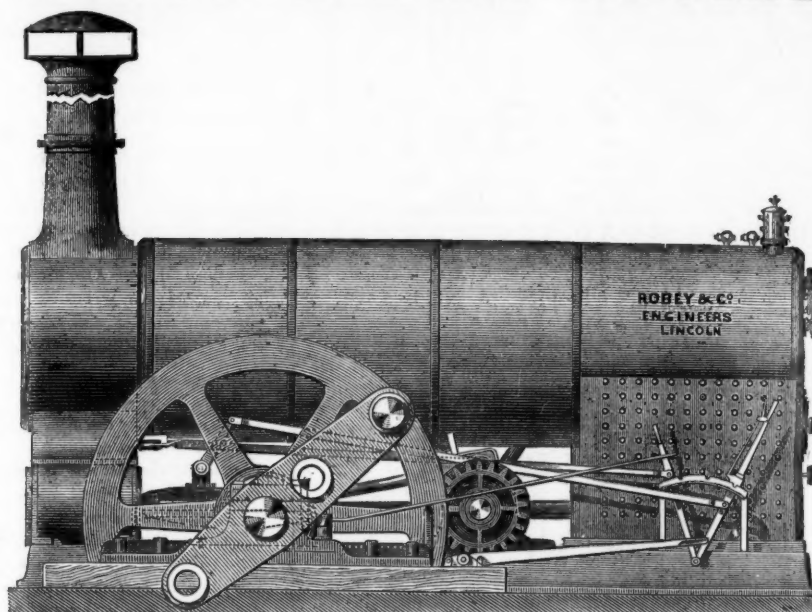
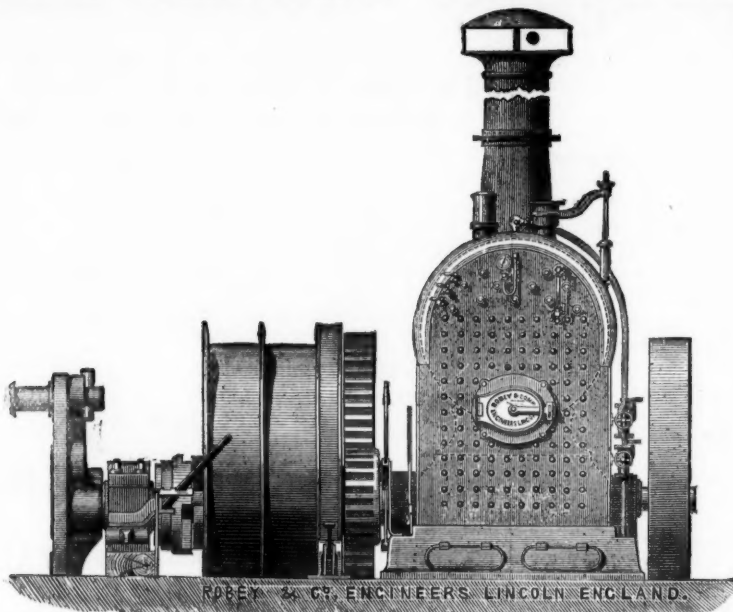
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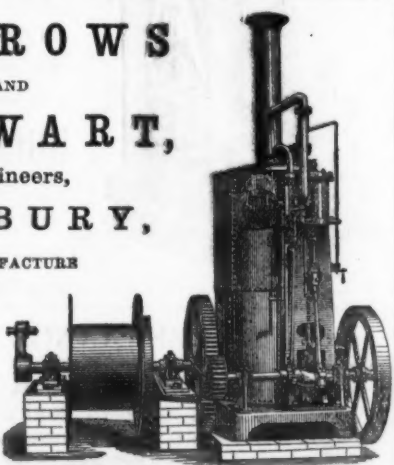
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THE MINES AND MINING DISTRICTS OF UTAH; THE DISTRICTS OF THE WAHSATCH RANGE—AMERICAN FORK.

SIR.—American Fork mining district is situated in the Wahsatch Range of mountains, south-east of and adjoining Little Cottonwood district, and is distant from Salt Lake City about 45 miles. It is accessible by the Utah Southern Railroad to American Fork Station, which connects with a narrow-gauge road up the canyon to Deer Creek, from whence is a good road to the principal mines, traversable on horseback or by team. The mines can also be reached on foot or by horse from Alta City, Little Cottonwood Canyon. The district is about 15 miles long by 5 miles wide, and was organized in the year 1869. The ores in the western part are of a free milling character, but the majority of the ores in the other portions of the district are smelting and roasting ores, principally carbonates and galena.

The mines in this district are numerous and valuable, and the late discovery of gold in American Fork Canyon has invested it with a new interest. The mountain gulches are filled with prospectors seeking for gold, and every day some new discovery or location is made. Later on I will give a description of these more recent discoveries, which I think will prove of great interest to your numerous readers. One of the principal mines in this district is the Miller Mine, owned by the Miller Mining and Smelting Company, composed principally of New York and Chicago capitalists, who are also the proprietors of the Sultana Smelting Works in the same canyon. The mine is located on the Miller Hill, and is developed by over 7000 ft. of drifts and inclines, besides several very extensive tunnels. On the south side of the hill the Mormon tunnel commences, and runs 700 ft. in a north-north-westerly direction. At a length of 500 ft. the Howland tunnel branches off from it in an easterly direction. About 550 ft. from the mouth of the Mormon tunnel a vein of galena ore was struck, averaging from 3 to 5 ft. in width, assaying from 35 to 50 per cent. in lead and 47 ozs. in silver, and also containing a large quantity of sulphate of iron. The vein dips to the south-east, and lies between slate and limestone, while 15 ft. below the limestone the formation is quartzite. About 20 ft. above the Mormon tunnel, and 50 ft. west, is the Alpine tunnel, running in a north-easterly direction some 125 ft. No very valuable deposit has been discovered in this tunnel, but a considerable quantity of float ore has been taken out. Running nearly parallel with the Alpine tunnel, a little further west, is the Lady Annie May tunnel, which is about the same length, and contains a similar quality of ore. On the same side of the hill, 92 ft. above the Mormon tunnel, is the Main tunnel, which is connected with the face of the Howland opening by an air shaft. An incline has been driven from the end of the tunnel 45 ft. in length, and at the foot of the incline is a drift 300 ft. long, from which two inclines run direct to the Mormon tunnel. Above the Main tunnel about 30 ft. is the Lady Emeline tunnel, running in a northerly direction, and 150 ft. higher than the Emeline is the Last Hope tunnel. Large bodies of fine ore have been found in the Last Hope, and, in fact, its entire course has been driven through ore veins. On the north side of the hill is the Lady Annie tunnel, 350 ft. long, running toward the Mormon tunnel, besides several minor tunnels of different lengths. Near the Lady Annie, on the south side of Miller Hill, is the Wyoming Mine, which is developed by a shaft and two tunnels, in the lowest of which very good ore has been found. The Wyoming is also owned by the Miller Company.

The Miller Smelter is situated at Forest City, nearly four miles distant from the mine, and the works consist of three cupolas, engine and blowers, and one roasting furnace, which were constructed at a cost of \$90,000. The ore is conveyed from the mine to the works by means of a tramway which winds around the mountain side, and which has been expensive and difficult to construct. The value of all the improvements on the Miller property amounts to nearly \$150,000.

The Roessler Mine is situated west of the Miller, and is developed by an incline and drift. The formation is quartzite, and the vein a true fissure, averaging 2 to 3½ ft. of galena, assaying 67 ozs. in silver and 54 per cent. in lead to the ton. The mine is owned by gentlemen of Salt Lake City. The Vermont Mine, north-east of the Roessler, shows a 3-ft. vein of galena, containing sulphate of iron, and is developed by a shaft and tunnel. The Bullion Mine, situated west of the Roessler, shows considerable quantities of good ore, and is developed by a shaft, several drifts, and two tunnels. A good wagon-road runs close to these mines, and there is abundance of timber in the vicinity.

The Pittsburg Mine is situated on Pittsburg Hill, and is one of the most valuable in the district. It is extensively developed by numerous tunnels, shafts, inclines, and about 20,000 ft. of drift running through the ore, of which there is over 2000 tons in sight. The vein averages from 3 to 12 ft. in width, and the ores are principally low grade, assaying from 14 to 30 ozs. of silver and 46 to 49 per cent. in lead. The ore also carries a great deal of oxide of iron, and fluxes itself in smelting. The mine is located about four miles distant from the smelting works, communication being by tramway and wagon-road, and it is owned principally by parties in Pittsburg, Pennsylvania, and Cleveland, Ohio.

The War Eagle is situated east of the Cariboo Mine, and adjoins the Pittsburg on the west. It is developed by a tunnel about 280 ft. in length, two shafts, and several cuts, showing fine bodies of ore. The vein is a true fissure in quartzite, the ores assay from 40 to 130 ozs. of silver per ton, and from 45 to 65 per cent. in lead, with about ½ oz. in gold. The Cariboo, located on the same vein as the War Eagle, is an excellent prospect. The vein is a true fissure, averaging from 2 to 3 ft. in width, the cropping of which can be traced all over the hill for a distance of 5000 ft. The ore is galena, assaying 140 ozs. in silver per ton, 35 per cent. lead, and ½ oz. in gold, with considerable quantities of sulphate of iron. The developments consist of two tunnels and one shaft, and its situation on the hill is such that another tunnel about 150 ft. long would strike the vein again, which would greatly facilitate the working of the mine. The location is excellent, as it can be worked during the entire year.

The Southern Spy, situated on Mineral Flat, ¾ mile west of the Cariboo, is a good mine, and developed by several drifts and shafts; it is owned by Walker Brothers, of Salt Lake City.

The Wild Dutchman is located near the Sultana Smelter, and is developed by four tunnels and numerous drifts. The ore is of high grade, considerable quantities of which have been sold to the Miller Mining and Smelting Company. The Queen of the West is a very good prospect, showing a vein of galena 3 ft. in width, developed by a shaft upon the vein, and a tunnel of 250 ft. long crossing the quartzite formation.

The Bredemeyer No. 1 is located east of the Queen of the West, facing Pittsburg Hill, and is owned by the Miller Company. The developments consist of two tunnels, each about 50 ft. in length. The vein averages 2 to 3 ft. wide, in quartzite formation, and the ore assays 67 ozs. in silver per ton, and 74 per cent. lead. The Bredemeyer No. 2 and Meacoeque is situated east of the Bredemeyer No. 1, and about 1000 ft. higher on the hill. The vein is a true fissure in quartzite, averaging 2½ ft. in width, and the ore assay from 27 to 47 ozs. in silver per ton, and 54 per cent. of lead. The mine is developed by inclines and tunnels, and is owned by Dr. W. Bredemeyer and E. L. Meacoeque.

Opposite from the Miller Mine, at the head of Mary Ellen gulch, is the Live Yankee, and its extension the Mary Ellen, both of which are very fine properties. These mines are developed by three shafts, tunnels, and inclines, and quantities of rich ore have been taken out containing silver, lead, and gold. It is in the vicinity of these mines that the late deposits of gold have been discovered which will, no doubt, greatly increase their value. The Silver Glance, situated 1500 ft. above the Mary Ellen, is developed by two tunnels, one 200 ft. the other 100 ft. in length. The ore is milling ore of a high grade, quantities of which are in sight, and directly south of the mine, scattered all over the hill, are immense quantities of rich milling float ore. About ¾ mile south of Silver Glance are five good prospects, belonging to the Miller Company. They are all more or less developed, and are as follows:—The Consolidated Comstock, Prince

William, Red Warrior, Silver Hill, and Tyler. There are a large number of good and promising prospects in this district which could be worked profitably with moderate capital, and which have not yet been developed to any extent, on account of the owners lacking sufficient means for so doing. The late discoveries, however, will no doubt inaugurate a new era of prosperity and success for American Fork, and of which I will give a description in my next. Salt Lake City, Utah, Oct. 12. B. A. M. FROBETH, U.S. Surveyor.

THE GREAT FIRE IN VIRGINIA CITY—NO SERIOUS LOSSES INCURRED—LATER NEWS, MINING TO BE RESUMED AT AN EARLY DAY.

SIR.—The painful announcement made lately by telegraph of the conflagration in Virginia City, Nevada, caused a good deal of anxiety among our American mining investors. There was some exaggeration in the different reports circulated in the City, as later news received from Nevada have brought the gratifying intelligence that the leading mines—Consolidated Virginia and California—have not been seriously injured by the conflagration. The extent of the losses have been chiefly incurred by the mining population of Virginia City, which has been partially destroyed. The unfortunate victims rendered homeless and destitute by the effects of the fire, and as its consequence by the suspension of business, have received immediate assistance from the well-known liberality of the people of California. Public-spirited gentlemen of San Francisco have forwarded all that was required in money and provisions to relieve the sufferers. Most of the properties burned, among which were several fine mills, were insured, and the most serious accident has been the stopping of the works in the mines, and, therefore, a regrettable delay in the anticipated production of an unprecedented quantity of bullion for the two last months of the year. We learn, however, from reliable authority that Mr. John W. Mackay, the principal of the rich firm of Flood and O'Brien, managers of the Bank of Nevada in San Francisco, and Mr. James G. Fair, one of their associates and superintendents of the great mines Consolidated Virginia and California, are now busily engaged in putting everything in order for the early resumption of working at their mines.

In addition to the mills which they own, and which have not been injured by the fire, they have lately purchased two other mills on the Carson river, and it is hoped that with that additional crushing capacity, which is to be applied for some time to the richest ore of both the Virginia and California mines, any delay arising from the temporary suspension of works will be counterbalanced by a larger production of precious metal. Judging from the activity displayed by the people of Virginia under these most trying circumstances, it is confidently expected that that city will soon be rebuilt, with better and more substantial accommodation for its growing population and its numerous visitors, and that mining companies will be able to resume business by the end of the present year to the satisfaction of their shareholders, thanks to the indefatigable exertions of Messrs. Mackay and Fair, supported by the other superintendents of mines at Virginia City. J. B.

CAPE COPPER COMPANY.

SIR.—I have a letter from a former director and large shareholder of the Cape Copper Company, but who has long since sold out. He writes—"My brother A. has just returned from the mines; he says he should not be surprised to see the shares go up to 50%, as the mine appears to be inexhaustible." The letter is dated Sept. 27, and was in reply to my enquiries, and you are quite welcome to see it. London, Nov. 1. O. P. Q.

ON MINING IN TASMANIA.

SIR.—Since my communication of March 21, which appeared in the Journal of May 15, on the subject of Tin Mines, &c., in Tasmania, considerable discoveries of alluvial tin ore have been made, and I should have communicated this fact to you by the last mail, but much of the information I got was not from reliable sources. People get over-sanguine, and write and talk of tin as if it were to be obtained by merely stooping for it. Although there are considerable deposits of alluvial tin near George's Bay, Mount Cameron, and the Kingarooma districts, I am not aware that any discoveries have been made up to the present that would seriously affect the price of tin in the market. Very fine tin ore mixed with titaniferous iron zircon sand, and resulting, I presume, from decomposed granite, can be found over a wide area, but the coarser grained tin is more confined to creeks, rivers, and valleys (still there are exceptions to this). In some places the tin-bearing drift contains as much as 2 or 3 lbs. of ore to the dish, although it often occurs that as much as 8 ft. or 10 ft. of refuse has to be removed before the tin-bearing drift is reached, and in summer many of the claims will be short of water for cleaning the ore. Notwithstanding these drawbacks it is evident the discovery of tin ore over such a large extent of country is a boon to the island, if properly managed with honesty of purpose. If the Government were a little more consistent and liberal in granting land to actual pioneers in the discovery of metalliferous ores, much good would result from it. Out of the applicants for many thousands of acres of land for tin mining there are, perhaps, not more than half-a-score that ever saw a tin mine in their lives, yet the majority who have taken up land for the market profess great efficiency in tin mining. It is more than likely that one-tenth of the land taken up will never be worked profitably whilst tin is so low.

Labourers (natives) can be got here for 6s. per day, or less, and there is scarcely a day that you do not meet men in search of work, and I would strongly advise Cornish miners to be careful and secure an engagement from a respectable house before they leave their homes. The climate here is good, but a "bush" life is a rough one, particularly at Mount Bischoff and vicinity. Although tin ore seems to have been more liberally deposited at the Mount than many other places in the island, it has its drawbacks as regards bad weather and bad roads, I do not think any good will be done there in a commercial point of view until a tramroad is constructed to the tin works. I hope to give you further information next mail. George's Bay, Tasmania, Sept. 1. JOHN HUNT.

IMPERIAL BRAZILIAN COLLIERIES.

SIR.—The meeting on Wednesday last was adjourned for a month. Will you permit me through your valuable columns to beg the shareholders not to fail in attending the adjourned meeting, and to cancel all proxies given to the directors or anyone else? It is of the utmost importance that the shareholders look after their own interests. From some motive or another the directors are bent upon winding up the company if they can. This would be utterly and entirely ruinous so far as the shareholders are concerned, and should be opposed by every means possible. ANXIOUS.

IMPERIAL BRAZILIAN COLLIERIES (LIMITED).

SIR.—I attended the meeting of the Imperial Brazilian Collieries on Wednesday last, and was astonished to observe the great and unseemly anxiety manifested by the directors, in connection with a noisy clique whose attendance had been secured, to wind-up the company. That the directors were fully bent on this course was evident by the unfair way in which they treated their opponents. One speaker, who somewhat warmly denounced their plans, was charged by the directors with having advertised the company and being a small shareholder—two statements their clique warmly applauded, though what either had to do with the question in hand I was at a loss to conceive; and the *tu quoque* the speaker gave the directors was well deserved. The manner in which they treated the views of the solicitor to the company, who is opposed to the winding-up, was simply disgraceful. The solicitor's speech, by-the-by, should have been heard by every shareholder. The meeting ended by an adjournment for a month being carried, thus frustrating the schemes of the directors. I entreat my fellow-shareholders to attend the adjourned meeting, and those who have given proxies to withdraw them. The shareholders have nothing to gain but everything to lose by winding-up, while if the company can only be kept

going I believe a great future to be in store for it; but to attain this position the shareholders must look after their own property, and not leave it in the hands of incompetent directors. Let every shareholder attend the adjourned meeting. A SHAREHOLDER.

SOUTH AURORA CONSOLIDATED COMPANY.

SIR.—I should be glad if through the medium of the Journal I could obtain any information respecting the above company. My apology for troubling you is that I, and I do not doubt the general body of shareholders, would be glad to receive some statement from the board, seeing that the value of the shares is being gradually depressed without any apparent reason. Since the rather unsatisfactory meeting in June the shareholders have heard nothing from the directors. I think, considering the peculiar features of the case, and that a large sum of money—now, I believe, about 20,000£—has to be utilised for the benefit of the company, that it would be well if the directors issued an occasional report to the members as to the use they are making of this amount, and also as to the progress of untakings in which they have already embarked some money, else I fear we shall find this sum growing beautifully less and nothing to show for it. I should be glad to know whether they have thoroughly tried our own mine, bearing in mind the recent discovery in the Eberhardt, close adjacent. A SHAREHOLDER. London, Nov. 2.

RICHMOND CONSOLIDATED MINING COMPANY.

SIR.—Your correspondent "One Behind the Scenes," having an intimate knowledge of the company's affairs, may give some information upon the following points:—

- 1.—Who paid the "Rev." Mr. Probert's expenses to the Continent to find out the best process for the treatment of the Richmond ore? If paid by the Richmond Company, who is to benefit by any arrangements that may be made for the use of the patent in America, the right having been acquired by Mr. Probert?
- 2.—Why were 1000 to 1300 tons of bullion allowed to accumulate on the dumps, in order to make a good show for this patented process?
- 3.—Why, as the managing director of the Richmond Company, being in San Francisco during the whole of the financial crisis, knowing well from daily communication with the company's bankers, did not Mr. Probert keep his London colleagues advised of the impossibility of paying the dividend?
- 4.—Is it true that the Richmond directors have not had any official communication from Mr. Probert since some time before August?
- 5.—Is it true that this Rozan patent has already cost the Richmond Company 18,000£, or 6000£ in excess of Mr. Probert's estimate?
- 6.—If Mr. Reuben Rickard (the present manager of the Richmond Mine) was selected by Mr. Probert "as the best qualified man to work the Rozan pans," how is it that, so far, the process has proved a disastrous failure, the company being again compelled to ship bullion so as to reduce the heavy indebtedness to the agent?
- 7.—If the "best qualified man" has signally failed to make the patent work, what is the prospect that Mr. Probert may be able to do so upon his return from San Francisco?
- 8.—Upon what authority does "One Behind the Scenes" make the statement that "a dividend of 10s. per share will be declared next month?" If he really be "behind the scenes," most assuredly his clerical friend on the other side will admonish him severely for having made such a positive mis-statement. Can the next dividend be declared before March next?

Nov. 3. ONE WHO KNOWS, BUT NOT BEHIND THE SCENES.

FOREIGN MINES AND ENGLISH CAPITAL.

SIR.—Your correspondent "Member of the Stock Exchange" has raised a question and replied to it satisfactorily no doubt to himself apparently altogether oblivious of the dictum—*audi alteram partem*. "Member of the Stock Exchange," evidently fully acquainted with the many considerations surrounding the questions he has raised, asks—"Does the employment of home capital in foreign mines pay as an investment?" Your correspondent admits "it is a question not easily nor satisfactorily replied to," but yet boldly tells us that "foreign mining, revived by the phases of the past few years, has a powerful claim upon investors, as when founded upon a legitimate basis the results realised contrast favourably with any description of investment." I do not pretend to the knowledge of your correspondent, and as an "outsider" am unable to collate facts with such readiness. But it occurs to a mere superficial observer that "Member of the Stock Exchange" while putting a question difficult of reply found an answer upon insufficient grounds, if not without any foundation whatever.

The array of disastrous failures are ascribed to one common cause—unreasonable demands of vendors and promoters. If, were told, these modern creations could be dispensed with a failure of a foreign mine would then be an exception. The suggestion is undoubtedly an admirable one that vendors should be paid proportionately with the success of the property they vend, that would be a most salutary reform, as thereby vendees would be constrained and encouraged to assist and persevere with the development of their mines, which there is too much reason to fear is not often the case under present circumstances. "Member of the Stock Exchange," however, has adduced evidence sufficiently convincing to come to only what Ruskin calls "an intangible conclusion," as surely this cannot be the sole bane of foreign mines.

Doubtless foreign mines in themselves, with moderate capital, should be valuable and desirable investments, and the matter having been so freely opened in your columns by "Member of the Stock Exchange," it becomes the duty of those interested in the subject to step forward and render all the aid in their power to establish foreign mines upon a fair and satisfactory footing.

Nov. 3. AN OUTSIDER.

DYNAMITE AND GUNPOWDER.

SIR.—Your correspondent, "Captain," would do well to act up to the advice he so freely gives to others, by keeping to facts, rather than publishing stories which have no foundation.

"Captain" says, and I agree with him, "It is always well in business to keep to facts, and as there is plenty of room for dynamite, lithofracteur, Horsley's powder, and the various other explosives in the market, it is to be regretted that any one of them should be run down by the representatives of another." Why, then, should he attempt to "run down" dynamite, by inventing and publishing stories respecting it which are untrue? He asserts as a fact that the late manager of the Dynamite Company "was blown to atoms whilst superintending the unloading of a cargo." Nothing of the kind took place. The accident did not occur "in superintending the unloading of a cargo," but arose in a very different way, and with a different result. The late manager was burning, in order to destroy, a large quantity of damaged dynamite, and while doing so he discovered that he had inadvertently placed a cartridge on the fire which had a piece of frozen nitroglycerine adhering to it, and, knowing the danger to arise therefrom, he on the spur of the moment struck it a blow to try and knock it out of the fire, and this occasioned the explosion. Although much injured, not a bone was broken or dislocated, but the shock to his system was so great that he died in little more than six weeks afterwards. Being a personal friend, I visited and saw and conversed with him on his death bed, and was present at his death. He was perfectly conscious to the last, and free from pain, and gave the above explanation of how the accident arose; and there can be no doubt of the correctness of it, for others were present, and saw what took place. I can, therefore, speak with authority, and give the most positive contradiction to the statements contained in "Captain's" letter. In his desire to impugn the statement that not a single accident has arisen from the transport or storage of dynamite, he appears to have invented, or at all events promulgated, an untruth; but he has still to show that the statement published by the Dynamite Company is incorrect. If any accident either in such transport or storage had taken place I believe that I should have been one of the first to hear of it, and I can positively affirm that I never heard of one.

"Captain" asserts that "after all, economy is the great question" in the selection of explosives. No doubt it is a very important one

but safety to the lives of the miners must not be lost sight of. If he really believes that gunpowder is the most economical and the safest by all means let him hold to it, but that is no reason why he should publish harrowing details of untruthful stories to try and deter others from using what they find to be the most economical and the safest.

Independently of my own experience, which has been very great, I can quote two undoubted authorities in support of the opinion I have formed. I have the written assurance of Mr. Hocken, the managing director of the St. John del Rey Mining Company, that notwithstanding the extra cost of dynamite, they effected a saving of 25s. a fathom by using it in place of gunpowder; and Prof. Abel, in his evidence before the Select Committee on Explosives spoke most favourably of dynamite, and in his published lecture on explosives, delivered before the Institute of Civil Engineers, described it as being "one of the safest, most powerful, and most convenient explosives applicable to industrial purposes."

London, Nov. 1.

THE INVENTION OF THE SAFETY-LAMP.

SIR,—I am not at all satisfied with the further statements of your correspondent on this head; his comments are quite vague and unsatisfactory, except on one point, and on this head, if he is correct in his data, his statements are conclusive enough in all conscience. What he and Mr. Smiles says about the idea of a safety-lamp is quite correct; no doubt Mr. Stephenson had the idea of a safety-lamp, and he was working at his idea. He also made many experiments at a blower of gas in the Killingworth Coal Mine, and I think that he had discovered that the gas would only travel through a tube at a certain rate of speed. But if Stephenson invented the lamp known as his—that is, the wire gauze—and added thereto a glass, and this lamp was in use before Davy invented the gauze, then Stephenson invented the whole thing, and Davy invented nothing; he, in fact, took away the glass, and produced an inferior, not a superior, lamp. Your correspondent, is I fully believe, entirely mistaken in his data. He must see that the point is centred in this—Who invented the wire gauze? And he will find conclusive evidence that this the greatest invention ever made in connection with the working of coal mines is due to Davy. But if he can give us any proof that it was invented by anyone else I shall be glad to be corrected, but much surprised; at present I have no doubt that my views are correct. I am quite aware that Stephenson claimed the idea of a safety-lamp, but he never made any pretensions to the invention of the wire gauze, neither did he originate the idea of using a glass in connection with the gauze; this idea is due to the eccentric, ingenious "Billy Martin," but the latter had the glass on the outside of the gauze, and Stephenson put it inside, and also made other improvements in Martin's lamp.—*Newcastle, Nov. 2.*

M. E.

COAL MINING IN SCOTLAND.

SIR,—"Veritas" is quite right in stating that a larger proportion of dross will be made in a narrow (7-ft.) place than a 12-ft. place, and that the coals will cost more per ton. I put the cost at 3s. or 3s. 6d. a yard, which, in a 5-ft. coal, would be from 10d. to 1s. a ton (a high allowance), because the cost of "shearing" in the one case is paid on 7 ft. wide, and in the other on 12 ft. wide. There really is, however, only one shearing for 24½ yards (22 + 2½), and the quantity of dross cannot be much greater on the whole. Neither is there so much difference in the cost as would appear at first sight. Let us put it that, in a 5-ft. seam, a 12-ft. place is paid 1s. 6d. a ton, and that the stoops will be worked at 2d. less, while the narrow mines will cost 2s. 4d. a ton. In a stoop, end, and plane, the hewing price would be as follows:—

With narrow end and wide plane.			
End.....	78 x 7 = 546	Square yards.	Tons.
Plane.....	40 x 12 = 480		
Stoop.....	66 x 66 = 4356		
	6324		
With wide end and plane.			
End.....	78 x 12 = 936	Square yards.	Tons.
Plane.....	61 x 12 = 732		
Stoop.....	61 x 66 = 4026		
	6324		

Supposing, therefore, that the coal will be as clean got out by the wide work as by the narrow ends, and that no more wood would be required, there is an apparent saving; but, as a practical man, "Veritas" will admit that this would not be the case. One objection to making the pillars 60 yards by 30 yards is the expense and difficulty of carrying brattice so far. Another is that the pit would be much more slowly opened up, but otherwise the larger the pillars are the better.—*Glasgow, Oct. 26.*

AN ENGINEER.

CIRCULAR IRONCLADS.

SIR,—Thirty or thirty-five years ago you had an eccentric correspondent, whose name I forget, who wrote a good deal in your Journal, and proposed many new schemes. Among others I think you will find he proposed a circular steam vessel. I have no file of the Journal so far back, but I doubt not the paper might be hunted up. His christian name was Alfred, and he was a Cornishman.

AN ENGINEER.

THE DOWSING ROD

SIR,—After "Scrutator's" able letter in last week's Journal, written in answer to one which appeared in the Supplement to the *Mining Journal* of Oct. 2, signed Thomas Spargo, can we do other than conclude that the letter signed Thomas Spargo was written either by one as ignorant of the whole matter as the man in the moon, or else by one whose object apparently is to deceive and mislead the readers of the Journal with reference to this subject by uttering a tissue of falsehoods. But in this I think he has signally failed; the readers of the Journal are far too acute not to see through such shallow devices. That any man calling himself a gentleman, and possessed of his right senses, should have had the audacity and meanness to write such a letter, knowing it to be false, seems to me to be a monstrous idea, and one that I cannot for my part entertain. That such a mean and dastardly attack, entirely uncalculated for, should have been made on the late Dr. Elliotson and the present Dr. Ashburner, men who struggled hard in their day for the cause of Truth and Science—men who were not deterred by obloquy, nor ashamed to confess the truth of Mesmerism, well knowing it to be founded on a rock, and to espouse and advocate its cause in spite of friends or foes, in spite of all the opposition of the Royal Society, and right nobly did they do their work—nobly did they fulfil their task, as their numerous and valuable works abundantly testify; these are men whose works will yet be handed down to posterity as a memento of their greatness, and whose names will yet become familiar in every household long after Mr. Spargo and his friends have passed into oblivion, to be remembered no more. That such an attack, I repeat, should have been made is to be greatly deplored, and, if knowingly done, justly merits the scorn and silent contempt of every right-thinking man. I cannot, however, believe that Mr. Spargo intentionally wrote this letter knowing his statements to be false. I would much rather believe that he has been misled by others, or rather that he was writing from hearsay (a most dangerous practice); this seems a far more reasonable view of the matter. If, on the other hand, it was intentionally written we cannot too much deprecate such a proceeding; assuming this to have been his object, the tables were never more completely turned upon Shylock than upon Mr. Spargo, and well might "Scrutator" exclaim with Shakespeare—"Now, infidel, I have thee on the hip"—for never did man dig a pit to fall into more securely than he has done. And this too, Mr. Editor, coming from a man of science—from the one who might with safety be termed the leader of the opposition—it most certainly looks serious if the opposition have to resort to such artifices as this to oppose the dowsing rod. Surely such an opposition is but a name, and in its

essence, like a celebrated quack's pills, neither good nor harm. Can it be possible that Mr. Spargo has become a sudden convert to Spiritualism—that he has been dowsing and dreaming, or has been making use of that little magical go-cart on three wheels (that he so kindly told us about a short time ago), and obtained his information from his great grandmother or his little grandmother, from his great grandfather or his little grandfather, his niece or his brother, his uncle or his mother, or any other of the Spargo kindred (not to enumerate the whole race) or acquaintance; if so, his ancestors apparently must have been a bad lot, for they certainly have deceived him, and if he would listen to me I would advise him for the future to have nothing further to do with spirits or hobgoblins, for fear that they should eventually make an hobgoblin of him.

And now, Mr. Editor, to business, as "N. B." would say; and, by-the-bye, I may incidentally remark that I was very glad to see my old friend "N. B." in print once more, and inform him that I do not sorrow as "one without hope," but rejoice with great joy inasmuch as the sheep that was lost is found, and brought back to the fold, from which let us hope it will never foolishly stray again, but let its bleat be heard in council once more—let bygones be bygones, let us smoke the pipe of peace. But again to business. It is gratifying to see your numerous correspondents come out in the manner they do in the treatment of the above subject. Many of their interesting, amusing, and instructive letters are read, I feel satisfied, with interest and benefit by us all. Now is the time that all who are capable of giving an opinion on or explaining the theory of the dowsing rod in any of its branches, or its general adaptability to the practical wants of the age, should do so. I think, Mr. Editor, you will agree with me that this subject is of sufficient importance to command the attention of all, and will well repay the labours of those who feel an interest in it. That your correspondents should have come out in the numbers they have done shows the great interest they take in the matter, but I think there are many more among your numerous readers who could give additional and valuable information on the subject if we could prevail upon them to do so; at all events, we are greatly indebted to you for allowing the free discussion of the subject in your columns as you have done, and, in conclusion, I repeat that I hope all who are capable of taking part in the discussion now going on will do so, both for and against, so as to thoroughly ventilate the subject.

FAIR PLAY.

GOLD IN WALES—No. VII.

THE DOLGELLEY DISTRICT.

CLOGAU SECTION.—I propose, in the first place, to quote from a paper written by me just sixteen years ago, when I was largely interested in the Vigra and Clogau Mines, and with sundry other adventurous persons thought, and not very unreasonably, that it was within the range of possibility to find a royal road to riches through a royal mine. The notion was not so Quixotic as it would appear at first sight, because long before that I had agreed with the then proprietors, for 100%, for permission to work for a month at a place of my own selection on the Clogau Mountain. Unluckily for me, I was not able to be personally present once during the explorations. Two or three days after the expiration of the month agreed on I went from London to Clogau, but was unexpectedly prohibited taking away the result of my labour, on account of some law-deviltry against the owners having cropped up in the meantime. A faithful miner, however, had taken care of about 3 cwt. (out of several tons) of auriferous quartz, and placed it for me beyond the proprietors' boundary. This I took to London, and from a portion of it obtained in veritable gold of unusual fineness a good deal more in value than its cost to me. Besides this I had the exquisite enjoyment of a long series of experiments in gold extraction, which I could not otherwise have had so entirely under my own control. I possess some of this 3 cwt. now, and some of it may be seen at the British Museum. I may say here that not very long after this, 2303 ozs. of fine gold were obtained by means of the Britten pans from 6 tons 2 cwt. 32 lbs. of Clogau quartz, and thus proving it not a Quixotic notion at all.

In the paper referred to I wrote as follows:—"The mines of this district are analogous to the mines of other clay-slate districts. In Cornwall, for example, the 'kilas,' or argillaceous schist, is crossed with felspathic rocks, called 'elvan-courses.' In this district of North Wales the clay-slate is crossed with felspathic rock, called greenstone. The point of difference appears to be that the mines here produce copper ore at or near the surface, and the Cornish mines at a depth of 60 or 70 fms. In Cornwall and Devon the finding of gossan is alone considered sufficient evidence of copper below it, and steam-engines are erected to sink this depth or deeper, through gossan, blende, and mundic, to the 'body of ore below.'"

It is now admitted that minerals and rocks were either formed by cooling from a state of igneous fusion, or by the combined operation of water and igneous fusion at a very high temperature, and under the influence of great superincumbent pressure. Mr. Sorby, in his elaborate monograph, "On the Microscopic Structure of Crystals, indicating the Origin of Minerals and Rocks," says—"With respect to minerals and rocks formed at high temperature my chief conclusions are as follow:—At one end of the chain are erupted lavas, indicating as perfect and complete fusion as the slags of furnaces, and at the other end are simple quartz veins, having a structure analogous to that of crystals deposited from water. Between these there is every connecting link, and the central link is granite. When the water intimately associated with the melted rock at great depth was given off as vapour, whilst the rock remained fused, the structure is analogous to that of furnace-slugs. If, however, the pressure was so great that the water could not escape as vapour, it passed as a highly-heated liquid, holding different materials in solution, up the fissures in the superincumbent rocks, and deposited various crystalline substances, to form mineral veins. It also penetrated into the stratified rocks, heated, sometimes to a great thickness, to a high temperature, and assisted in changing their physical and chemical characters, whilst that remaining amongst the partially-melted igneous rocks served to modify the crystalline processes which took place during its consolidation."

Now, whether metalliferous veins were filled in accordance with Mr. Sorby's theory or not, certain it is that they are found at great depths in Cornwall and elsewhere. In the Dolgelly district no greater depth has yet been reached than 30 fms., and that at the Clogau Mine. At this depth the copper ore is increasing both in quantity and quality, and it is reasonable to infer (contrary proof being wanting) that at still greater depth the general laws of production will be found analogous to other clay-slate districts.

According to Sir R. Murchison (as before quoted), "the most usual position of gold is in quartzose veins, which traverse altered Palaeozoic slates, frequently near their junction with eruptive rocks. Sometimes, however, it is also shown to be diffused through the body of such rocks, whether of igneous or aqueous origin. The stratified rocks of the highest antiquity, such as the oldest gneiss or quartz rocks, have seldom borne gold, but the sedimentary accumulations which followed, or the Silurian, Devonian, and Carboniferous (particularly the first of these three) have been the deposits which, in the tracts where they have undergone a metamorphosis or change of structure, by the influence of igneous agency or other causes, have been the chief sources whence gold has been derived."

Prof. Ramsay writes (as before quoted)—"In the Ural Mountains, South Australia, Canada, and other parts of the world gold occurs in rocks of the same general age, and apparently under the same circumstances."

Sir Roderick Murchison's statement is singularly corroborated by the position of the quartzose vein in the Clogau Mine, distinguished as the "gold lode," which traverses altered Palaeozoic slates near the junction of an eruptive bar of porphyritic greenstone, and the same law obtains also with respect to all the gold-bearing quartzose veins of the Dolgelly district.

The facts connected with these mines, as detailed above, will, of course, be variously estimated as to value. With reference to the copper produce, which is the direct object of the company, the prospects are very favourable at a comparatively small outlay, and considering the nature of the work to be done, without unusual delay. With regard to gold, it is not attempted to attach any importance

to it beyond the actual value of its visible produce. Should, however, the workings disclose anything like a continuous yield of the precious metals, there will be no difficulty, as heretofore, in the way of its extraction from the bulk of the lode where it may not be visible." (Famously enough, the above has been characterized as an "exaggerated statement.")

I shall now transcribe from an article in the "Quarterly Journal of Science," No. VIII., 1866, by that much respected scientist and statistician Mr. Robert Hunt, F.R.S., "On British Gold, with special reference to the Gold Mines of Merionethshire." After referring to the peculiar conditions under which gold occurs in the quartz veins of Clogau, which, as he writes, "are especially deserving of the closest study; they are the only gold-bearing lodes of this country, and the workings which are now in progress present opportunities which should not be neglected"—goes on to say, "Within an ellipse, about 15 miles long by 12 miles wide, are enclosed all the mines opened in the Dolgelly district. Outside this other fields are found, the most promising being the Bala district, in which is situated the Castell Carn Dochan Gold Mine, which is now yielding monthly small quantities of gold. Nearly all the gold mines are opened in the Lower Silurian beds, but in the Cambrian sandstones some of the quartz veins produce gold. The presence of greenstone or trap rocks has been already noticed, and it is a fact deserving of note that away from the vicinity of these rocks no good gold lode has been discovered."

The most important gold mines in North Wales are the Vigra and Clogau, from which, as we stated in our "Chronicles of Mining," 10,778 ozs. of gold had been obtained to the end of 1864. For some years both the Vigra and the Clogau Mines were worked for copper. They are now united as auriferous quartz mines, but nearly all, if not all, the gold has been obtained from the latter. The Clogau St. David, No. 1 mine, is certainly the richest gold mine ever worked in the British Islands, and may compare favourably with the quartz reef mines of Australia. According to Mr. Dean, from a space of ground not more than 50 fms. long by 30 fms. deep, and only a portion of which has been worked away, there had been extracted on May 31, and reduced, 4154 tons of quartz, yielding 11,508 ozs. of gold, giving an average of 2 ozs. 15 dwts. 19 grs. per ton. Taking this lode as a type of those which occur in its neighbourhood, it will be well to describe it. The lode has an average bearing 15 N.E., and is intersected by a very powerful cross-course, being 30° N.W., and dipping slightly S.W. The lode traverses beds of indurated Silurian clay-slate, which are interstratified with thick beds of greenstone. There is also a large greenstone dyke, which is traversed by a portion of the lode for a length of about 60 fms., until they are intersected by a great cross-course. Behind this cross-course the lode is extremely rich in gold; it should be stated that the lode is composed almost entirely of quartz, with here and there some carbonate of lime. Throughout the quartz yellow copper ore is in small quantities disseminated, as well as gold. Where the gold is most abundant telluric bismuth, in fine silvery white grains, is generally present, and an opinion prevails that wherever that mineral is met with gold is near at hand. It was commonly supposed that gold is only to be found near the surface.

Mr. A. Dean has favoured us with some notes on this point, which are exceedingly important if all the conditions have been correctly observed. Without comment, Mr. Dean's own words are given:—"The opaque white quartz floors, which are comparatively poor in gold, alternate with others of a greenish white colour, very dense, and of a shining conchoidal fracture; the latter are the rich gold-bearing floors. We have, therefore, alternate rich and poor floors. From the dip of the floors the deposits of gold appear individually to dip eastward, but as the bands of clay-slate forming the walls of the lode below the greenstone dip westward down to the cross-course, the succession of bunches of gold in the alternate floors of greenish quartz follow the dip of the clay-slate. This is an important point in relation to the recurrence of rich deposits of gold in depth below the present bottom."

This quotation (says Mr. Hunt) sufficiently indicates the hypothesis that with a recurrence of the same conditions in depth as rich, or perhaps richer, deposits of gold may be met with. There is a very close analogy between gold and tin. It was an opinion, held with much obstinacy for a long period, that tin would never be found deep in the earth. Experience has now proved the fallacy of this, for the most abundant deposits of tin are now worked at depths of between 200 fms. and 300 fms. from the surface. The result of sinking on the quartz lodes in the mountains of Merionethshire will be watched with much interest."

Invariably when a good mine is discovered, a great many other mines are started in the neighbourhood. This applies to every variety of mine exploration, and is especially applicable to gold mining. Numerous attempts and failures have marked the progress of mine adventure in North Wales, and it is generally believed that more gold has been expended on the Welsh hills than has been obtained from them. The authority whom we have already quoted, speaking of the poorer varieties of quartz, says—"The Clogau Company has stamped 2500 tons of poor ore, yielding an average of 15 dwts. of gold per ton. With good reduction machinery several of the gold mines in the Dolgelly district might yet be made to pay." It will be most satisfactory to find the hopes thus expressed by Mr. Dean fully realised. It is right that some idea should be given of the occasional richness of this auriferous quartz. Mr. Readwin informs us that by far the richest discoveries of gold have been made at the Dolgelly, Prince of Wales, and the Clogau Mines. He has, he states, extracted gold from stones from each of those mines at the rate of 300 to 400 ozs. to the ton. At the same time that he drew attention to the exceeding richness of some specimens of the auriferous quartz, Mr. Readwin says, with much honesty, "I beg distinctly to state that the average yield will not, in my opinion, exceed half-an-ounce to the ton of ore." I thank my esteemed friend for thus quoting me. I remain of the same "sanguine opinion," and intend to hold it until stubborn future facts oblige me to do the other thing. The known facts anyhow are in my favour. Quoting once more from my paper in "Ure," the most remarkable item in Welsh gold statistics is the fact of 9363 ozs. of gold having been obtained from less than 40 tons of quartz. It was here that the poor copper ore referred to was found, from which some 20 tons had been picked, sampled, and sold as "copper ore," and, probably, several thousands of ounces of gold were contained in it. The St. Helens smelters made no report, but magnanimously offered an advance of 5s. a ton for as much more of it as could be raised! The gold got from this mine (i.e., sworn to at the Crown Office, Dolgelly, and delivered to the directors of the Clogau Company) to May 30, 1866, was 11,663 ozs., from 5063 tons of quartz, averaging about 42 dwts. to the ton. So far, therefore, am I acquitted, by a commercial and very substantial fact, of the charge of exaggerated estimates.

I had hoped to be able at this place to give an official statement of all the Merioneth gold upon which royalty has been paid to the Crown. I cannot, however, do so, but the Hon. James Kenneth Howard has courteously informed me that the Office of Woods and Forests will shortly place the data at my disposal, and it will, therefore, appear hereafter.

Facts are, indeed, stubborn things, and it would be well nigh impossible to move the following facts on one side—that from 18 tons 17 cwt. 3 qrs. 14 lbs. of Clogau quartz, 6718½ ozs. of gold were extracted at a cost of less than 3000l., and that it realised at the Bank of England nearly 30,000l. *Rara avis* this, perhaps, but there is the *avis*, nevertheless. I have just seen a published statement of the present company's doings from Oct. 22, 1874, to Aug. 28, 1875. It appears that 385 ozs. of gold were got from 22 tons 13 cwt. 90 lbs. of quartz. Not so bad that for a beginning. This total of 22½ tons, as I read it, included 12½ tons of quartz (white, probably), which did not contain more than 7 dwts. of gold to the ton, about which I may have something to say hereafter when treating of the different modes of gold extraction that have been adopted in Merioneth—that is, so

* It has been recently stated that 1600 ft. depth has been profitably reached in gold quartz mining in Victoria.—T. A. R.
† This supposition is groundless: for the gold realised from Clogau alone would certainly pay every farthing of the mine costs of the gold-catchers proper, to say nothing of the gold spirited away in the witching hours of night.—T. A. R.
‡ "On the Recent Discovery of Gold in Merionethshire." By T. A. Readwin, F.G.S. "British Association Reports for 1863."

far as I know of them. I can easily believe in far better results than the last cited, for in my last July wanderings I was myself courted to allow the works to make a sort of "trial of the pyx" in my own rude way, the conditions being that I should state the gold result, and afterwards pocket it. There was a stern Shylock present, who evidently had some misgivings about this odd procedure. I soon discovered that he and specific gravity were not altogether strangers. I modestly asked to be favoured with 16 ozs. of the richest bits of quartz from a barrowful that had just come down from the mountain, stipulating that the selection should include some bits containing a liberal proportion of the "white metal" as well as gold. This soft request ought to have disarmed at once all suspicion of grovelling avarice on my part. I think it did to a great extent, for I observed a sort of look of "O wise young judge" in an inverted sense. My pound of vein stuff was weighed out exactly by the scale, and that not of the richest stuff certainly. With this vein stuff I exhibited an illustration of profitable cremation, my softened Shylock looking on the while, and as I fancied in some sort grudgingly and impatient for the result, that he might know the exact extent of the company's loss by this inopportune interference. The simple operation resulted in the production of 2534 grains troy of heavy metals from the 16 ozs. of ore, a trifle under 7 dwts. of gold of nearly 19 carat fineness. The residue consisted of tellurium, bismuth, and of another metal, chiefly the direct object of my search, and the obligation to mention which is not "so nominated in the bond." The 17. sterling worth of gold from 1 lb. of ore, weight of quartz was a satisfactory result enough without reckoning the other so-called "trifles," of which more, perhaps, anon.

The published report of Mr. Graham Stuart, F.G.S., dated Sept. 17, 1875, states—"The bulk of the lode (Clogau) is auriferous throughout, and practical trials have shown that about 7 to 10 dwts. of gold per ton can be obtained from it. These trials were carried out under my own charge from October, 1874, to February, 1875. The quantity of quartz crushed was 32,000 lbs., which gave an average yield of above 5 ozs. of gold to the ton. The richest selected portions averaged 77 ozs., and the poorer quartz 7 dwts. per ton, and subsequent workings corroborate these results."

Capt. Milford, under same date, reports:—"In No. 5 shaft, 5 fms. down, we have a small level, and men working upon rich visible gold. I have prospected other parts of the mine, and find the quartz the right kind for visible gold. I advise that we concentrate our workings for the present in sinking upon the rich shoots, and follow the visible gold down at St. David's, and put men to drive with rock-drills the level eastwards. We shall then cut through the whole of the rich shoot of gold in depth. I think it right to say that in our lowest depth we have found the richest gold." In the face of these facts it is difficult to conceive why the mines were abandoned. This enigma may be solved in time.

In May, 1862, Mr. J. A. Phillips, F.G.S., in a paper on gold mining, read by him at the Society of Arts, stated—"Of all the auriferous veins in the neighbourhood of Dolgelly that at present worked in the Clogau Mountain is certainly the most important. The mine is situated at a height of about 1000 ft. from the level of the sea, and the works are extended on what is called the St. David's or Gold lode. This lode, which is almost perpendicular, runs nearly east and west, and is chiefly composed of auriferous quartz, more or less impregnated with sulphides of iron, lead, and copper. The vein-stone also exhibits large quantities of disseminated gold, which generally occurs in a state of minute division. This mine is being worked on a small scale, and by means of very simple, and far from perfect, machinery. The following returns, however, were made during the course of the year 1861:—Ore crushed, 456 tons 32 lbs.; fine gold obtained, 2884 ozs. 1 dwt. 7 grs., being at the rate of 63 ozs. per ton of quartz operated on. During the current year, up to April 26, the results have been—Ore crushed, 255 tons 16 cwt. 16 lbs.; fine gold obtained, 1962 ozs. 2 dwts., or 7 7/8 ozs. per ton of quartz. It is needless to add that such a degree of success has given rise to the commencement of numerous mining operations in various parts of the district, but if gold mining in Merionethshire be approached in the speculative spirit that characterised the proceedings of 1852 it requires no prophet to foretell that numerous failures must necessarily be the result." So said Mr. Phillips, truly, and much more.

The same evening, in a discussion upon gold mining, the veteran Mr. Evan Hopkins, F.G.S., said—"With regard to North Wales, there was no difficulty in getting out the gold. He had been lately at the Clogau Mines. In one week he saw 9 1/2 lbs. of gold obtained from 300 cwt. of quartz by the pestle and mortar machinery, and when they put up stamps he had no doubt they would get a greater yield, and would be able to reduce comparatively poor stuff with profit. The cost per ton at the Clogau, with their present mode of extraction, must be excessive. The cost of extraction at Marmato did not exceed 8s. per ton. With reference to the St. John del Rey, the material they were working upon only yielded 37s. worth of gold per ton, and yet they were making a profit of 8000l. to 9000l. per month, as the cost of production was only 17s. per ton, leaving a profit of 11. per ton, but they could not do that unless they had a great abundance of material to operate upon." So said Mr. Hopkins, and much more, truly, with the exception of there being "no difficulty in getting out the gold" in North Wales, generally.

About this time Mr. Josiah Harris, M.S.A., stated before a committee of the House of Commons, with the then Lord Stanley in the chair, that "If there were a railway constructed from Dolgelly to Mold or Holywell, so that fuel could be obtained at a cheap rate to calcine the auriferous ores containing sulphur, the yield of gold would be limited only in proportion to the quantity of machinery employed. The auriferous district, so far as he had proved it, extended over 60 square miles. The district only wanted railway communication to open it, and there were millions of tons of quartz in the district holding from 10 dwts. to 1 oz. of gold per ton that could and would be worked to a large profit." So said Mr. Harris, in hyperbole, and much more.

Undoubtedly the first successful result in Great Britain of the working of a gold-bearing quartz vein is due to Capt. John Parry, the agent of the late Vignra and Clogau Company, for which the Commissioners of the International Exhibition of 1862 awarded that company a prize medal. Speaking as a shareholder of that company from its birth to its death, I regret that I am not able to record what might have been a very patriotic and graceful act on the part of the outgoing directors—the handing over the medal to the careful keeping of Capt. John Parry, of Glanronow, on condition that as the Champion of Welsh gold-catchers he and his heirs should hold it until another Capt. Gold-catcher beat him in the handing over to his employers of more than 1/2 ton of gold from one mine. But this graceful act is not yet history, and it is not generally known what has become of the medal. I cannot help saying that if this were at all a comic paper I might be tempted to tell some very comic natural history stories about this district; but it has not hitherto proved to everybody a laughing matter, therefore I shall, at all events for the present, forbear. For the life of me, however, I cannot refrain from saying that a Receiver-General of Inland Revenue once undertook to eat all the gold that would be ever got from Clogau, but when I subsequently offered him, by way of staying his appetite, a small button of about an ounce on account, the venerable unbeliever bolted out of the room instead of bolting the button. Now, suppressing names on the score of common humanity, I will conclude this letter with a few quotations from a collection I have made from the gold prophets and other eminences of the period.

One of the minor prophets from the St. John del Rey declared as his firm conviction "the future of North Wales is in the womb of time." This pregnant utterance was published at the time, but I am not aware that anybody has ever written a commentary on it. Another paid prophet wrote of Clogau, "No good will ever come of this." Upon being asked by a friend of mine "Why?" he said, "I can give no reason, but that is my opinion;" and he further added to the effect that in mining matters he should preserve his reputation longer, as a reporter, by disparagement than by encouragement. The gossips wickedly put it that he was in his cups when he said the one, and had not been on the mine at all when he wrote the other. I believe the gossips. One of the major prophets of much more

eminence was, to my own knowledge, paid 20 guineas for his opinion of a certain gold mine in this district, and he gave it in the following inimitable bit of composition. It has never before been in print, and I commend it alike to heartless critics and to all true lovers of the sublimity of simplicity. It is as follows:—"If a certain amount of capital be judiciously expended upon this property it will yield a profit commensurate with its capabilities." True, as its clever author told me, "It was only a twenty-guinea report;" still I have always cherished it as one of the very daintiest of literary morsels, and, moreover, it is quite possible that some weighty inferences may be drawn from it even now. Here I leave it. In fairness, however, I ought to add that this weighty opinion was accompanied with a rough lithographic sketch of an ordinary water-wheel.

Nov. 1.

T. A. READWIN.

SEPARATION OF LEAD AND BLENDE.

SIR,—Under the above heading an "Adventurer" has written a letter, which appeared in the Supplement to the *Mining Journal* of Oct. 30, and his conclusion is that we must send to Germany for "master dressers," leaving the Cornishmen to do the heavy manual labour. Dressers of the United Kingdom open your eyes! otherwise you will have to use the shovel and barrow, and have Germans superintending the floors. The article on "Mining" in the *Popular Encyclopedia* says that in the reign of Henry VII. (1485) a commission was appointed with "liberty to dig and search for metals, except under the houses and castles of the king and his subjects." Several grants and charters were made in the subsequent reigns, but it was not until the time of Elizabeth that any very active measures were taken to encourage the search for useful minerals; that queen induced German miners to visit England, and she granted them extensive privileges, no person being allowed to dig or search for minerals without their license. Now, supposing that was done then, does "Adventurer" think that the dressers of the United Kingdom are behind the Germans in dressing ores in the 19th century? I do not think so; and that I shall prove. In Germany, near Dusseldorf, there is a mine, with a lode a mixture of lead, blende, and munda. The Germans dressed the best part of the stuff, leaving the part where the mixture was greatest mostly undressed; they could not dress it. Now, as "Adventurer" says they are so capable, why not dress that? Mr. G. Green, of Aberystwith, has sent some of his "self-acting machinery," and is having it erected. The Germans laughed, and said that it would be a total failure. I agreed for my dresser to go out there, and to the great surprise of the Germans he writes me that he separates the lead quite clean from the blende and munda, and separates the blende from the munda—though separating blende from munda is a little more difficult, as both are nearly the same weight; and, as "Adventurer" says, the price of the lead is a great deal higher now after separating blende from it. The dresser writes that they are getting a higher price than before. "Adventurer" says, again, that the Germans are slow compared with Englishmen. To do the work well is of importance, but the amount is of more importance when the work can be done well also. The work "Adventurer" saw the "old man" doing would not be compared with the work this machinery can do with a dresser understanding it. The dresser I sent out had agreed for four months, but the manager seeing the machinery doing its work so well is not at all willing to part with the dresser, but wishes him to agree for twelve months more. I think, Mr. Editor, that we do not want German dressers spread over our country, as we have more competent here.—*Gogin, Aberystwith, Nov. 2.* W. J.

SEPARATION OF BLENDE FROM LEAD.

SIR,—I have read the letter of "Adventurer" in last week's *Mining Journal*, and, in reply, may state that I have an invention (foreign), not yet introduced into this country, but successfully at work for some years, for the separation of minerals of approximate specific gravities, as well as for the separation from the gangue. By this method galena and blende are separated with facility and accuracy, while, at the same time, a greater quantity of lead and blende, and more especially of silver, is saved than by the usual method of dressing with water.

In dressing with water it is notorious that a large percentage is carried away in the overflow, and more particularly in the slimes. In this invention air is employed to do the work instead of water. As there is no overflow, and no sluices, nothing is lost or removed, and the separation is as nearly as possible perfect. It does the work without sifting better than it is done with sifting by the method with water, but still greater improvement is effected by using sizing to a moderate extent.

The whole of the machinery is automatic, and requires but few hands to attend to it. It is in use for removing the impurities from an ore of kryptolite containing some spathic iron and some galena. The sp. gr. of kryptolite is 2.9; of spathic iron, 3.9; and of galena, 7.8; and, although the difference between the spathic iron and the kryptolite is very small, the separation is easily effected. The ore spoken of would contain quartz, sp. gr. 2.5; blende, 3.9 to 4; galena, 7.8; consequently the separation would be still more easy than in the instance just given.—*Nov. 2.* B. W. H.

[A detailed description of the invention referred to above will be published in next week's *Mining Journal*.]

LEAD MINING IN FLINTSHIRE.

SIR,—Lead mining in Flintshire appears at this time to be attracting a great deal of attention, and very deservedly so when one regards the immense profits and returns which have been made there for centuries past, as, if only the right spots are selected, they will undoubtedly unfold like riches for centuries to come. One cannot but feel sure that there is quite as rich mineral ground still existing untouched as any that has yet been proved, and I know of no spot more likely for success than Kilmorey, as will be seen from Mr. A. W. Thomas's hand-sketch in the *Journal* of Oct. 9, situated, as it is, in the centre of the richest mines of the whole district. This property is to be thoroughly worked by a Manchester company, under the name of the St. Winifred Mining Company (Limited). The sett contains numerous veins, which have produced a large quantity of lead at shallow depths, and still yield good ore, but the object of the company is to prove them at a proper depth, and, judging from the many favourable intersections, they will doubtless prove a property as rich in minerals as any in the county, offering an exceptional opportunity for a safe investment.—*Nov. 3.* FLINT.

WEST MARIA AND FORTESCUE MINES.

SIR,—From the glowing description recently given by "Medicus" the distant shareholders were led to look forward to early dividends; the result of the meeting, however, rather tends to check any exuberance of spirits that might have arisen from that flattering tale. Without taking too gloomy a view of matters as they stand, but still continuing to believe that this tract of promising ground (situate as it is so near the Great Wheel Maria discovery of wealth) will yield rich deposits of mineral, it is, nevertheless, very questionable if the company is quite in a position to be making calls for the purpose of trying sensational experiments, involving an expenditure which mines of greater magnitude, and in good financial circumstances, hesitate to undertake.

The boring-machine, as is well known, is about to have a trial at Dolcoath, and Mr. Basset has generously offered 100l. for the best invention; there can, consequently, be no particular occasion to be hurrying with an expensive trial of a similar kind in a call-paying mine before the success of these experiments has been to some extent established. The West Maria and Fortescue Company, like some of its neighbours, has been led through a tolerably severe ordeal of hazardous schemes already. Some few years ago, for example, the shareholders were cheered on by the report of a great discovery of tin, and forthwith ponderous steam-stamps were hurriedly purchased and erected, with what result it is almost needless to mention. Then came the erection of extensive and expensive arsenic works, which have since been partially used for the burning of munda from the mines of other people; and with regard to the reduction of dues, any help that might under ordinary circum-

stances have been calculated upon is scarcely to be hoped for, the heavy, lingering, and doubtful Chancery suit of many years' standing with the proprietors of the land being still in abeyance.

Nov. 2.

AN OLD SHAREHOLDER.

CORNISH MINING—ITS EVILS AND THEIR REMEDIES.

SIR,—In my last letter I endeavoured to explain as concisely as possible the characteristics of the Cost-book System, and its peculiar suitability to Cornish mining. I also stated that the Stannary Court was the cause of a great deal of the reluctance exhibited in some quarters to investing in Cornish mines. Whilst it cannot be denied that this institution has many powers that may seem to be used at times with injustice, it is equally true that it exerts a very beneficial influence by preventing any undue assumption of authority by the officials in any department of mining, and is a means of readily redressing the wrongs of the shareholders. Some months ago a shareholder in one of the largest mines of the county, feeling dissatisfied with the system of accounts, appealed to the Stannary Court, and made a full examination of the books.

Litigation is almost under any circumstances to be deprecated, especially in the case of encroachments in mining. South France, with all its wealth, was almost ruined by litigation. The whole of our law courts and our bewigged lawyers are necessary evils, evils which are as necessary as the vultures of the Andes, and like them they seldom leave a (car) case until the bones are well picked. Whilst there are men there will be disputes and quarrels, and whilst there are quarrels there will be lawyers and law courts. As things are at present, if we abolish the Stannary Court we should be obliged often to appeal to the Chancery Court—a case of dropping from the frying-pan into the furnace.

To return to mining accounts. Those who have opportunities of comparing the statements of accounts issued from the various mines will have been often struck by the wide difference existing in them. Whilst the time elapsing between the making up of the expenditure and the meeting varies from six to two months, the credits are stuck in up to the day of the meeting, and often credit is taken for tin yet unsold and unreturned. The effect of this is easily seen in the large amount charged for interest and commission at the bank. The merchants, too, are paid after 12 months have passed, and the system of "cookery" is so elaborate that only the practised accountant can fathom the intricacies. We have known payment deferred in this way for more than two years, simply for the purpose of keeping off the evil day as long as possible, always hoping for something to turn up in the metal market or in the mine itself, which would enable it to surmount these back debts. Not only is this system of deferred payment calculated to mislead adventurers, but it must also cause the merchants to charge high prices for their goods.

We imagine this is the secret of the antipathy to the contract system—a system that in most other places is acknowledged to be the best. We know where the contract system is practised in Cornwall, but there payments are made four-monthly. When we see dividend mines four months behind with the accounts, and ten in payments, we must believe something is wrong. Six-monthly settlements should be general. The copper smelters give 30-days bills a month from receipt of invoice; the tin smelters give 30-days bills at once. In a mine that is worked energetically tin can be returned in about a fortnight from the time it enters the slides. If we call this two months from the time the stuff comes to the surface until it is turned into cash, there is surely no excuse for these delays in accounts and payments. If an Act were passed regulating the accounts in our mines, and appointing a public inspector or auditor, much good would result. This keeping back of the truth savours a good deal of dishonesty, and is often resorted to by jobbing managers and mine-broking officials generally for the purpose of favouring their own speculative schemes.

West Seton statement of accounts used to be almost perfect in details, and, as a rule, the accounts in copper mines are kept much closer than in tin. The statements sent out from West Tolgus are very clear; there are no curtailments; all is laid out in detail, and the exact state of affairs is submitted. The ore credited is sold six weeks before the meeting, so that the ore bills become due almost as soon as the dividend is payable. It is a pity this system is not more general; it would save much chagrin and disappointment. We are very sorry, however, to find that the tendency appears to be towards allowing accounts to get behind; this is to be deprecated, for if such a mine gets into financial difficulties there is little chance for it.—*Nov. 2.* EXPERIENTIA DOGET.

CORNISH MINING—WEST GODOLPHIN.

SIR,—I read with pleasure the letter of a "Shareholder" in last week's *Journal*, and I fully concur in his remarks with respect to more energetically working the few mines now producing tin in the county of Cornwall, more particularly in the district to which he alludes. I have a few shares in West Godolphin, and have held them for a number of years, and have received dividends from profit made by the mine, although lately I have subscribed to keep the mine going and to provide the machinery recommended and purchased by the present committee. I have never had the slightest intention of abandoning the property or selling my interest, and am now more than ever convinced that the mine is good and will pay well. Not being practical I am, perhaps, unable to appreciate the very detailed reports which appear in the *Mining Journal*, and which are periodically issued by the secretary; but with a "Shareholder" I note with satisfaction the improved sales of tin and copper, and as no calls have been made of late I presume the next statement will show a balance on the right side of the account. I am very glad to find that attention has been called to the mine by your influential *Journal*, as I think it is much more worthy than some others that are highly coloured by your correspondents, and will, no doubt, prove ultimately of a different and, perhaps, more stable character than those that have reached such high prices only to fall again, and cause ruin to the shareholders and discredit to the promoters.

Nov. 3.

ANOTHER SHAREHOLDER.

CORNISH MINING.

SIR,—An epitome of my recent rambles having been inserted in the *Journal*, and my last closing at Callington, Cornwall, I did not mention that my attention was called to the great and doubtless permanent advance in the price of arsenic. A mineral the supply of which is so largely procured from Devon and Cornwall. That the production of arsenic refined, together with the somewhat new process of reducing low-priced copper ore, which is usually blended with it, will shortly render many mines which were formerly unprofitable good paying concerns there is little doubt. This process, however, has to a great extent been in use by Mr. Henderson and others for many years with great success. And it is a marvel that the intelligent mine managers and captains of Cornwall have not ere this availed themselves of the great advantages offered. Any young man intending to become a mining captain should make himself acquainted with the best and cheapest mode of raising the ore, and next of properly utilising it. It is much to be feared that in time past the captains have studied how to write reports more than other branches of their business, and to some this employment has doubtless brought much gain. Small attention is, however, now paid to captains' reports, and will be for the future we hope. Persevering practical knowledge of mining, combined with that of chemistry, may yet restore the county to its former state of prosperity. While minerals are needed there will be capital to procure them: let such capital be properly applied and success must follow.

I am glad to see that the neighbourhood of Callington is now being largely benefited by this industry. Before taking a walk to Liskeard, on my way to West Cornwall, I visited a mine adjacent to the town, where the works appear to be but faintly conducted. I am informed it has been worked for copper on a north lode near the granite. The lode is large, and some very good deposits of copper have been found; but, judging from the large quantities of rich peach lately raised from the lode, sufficient depth has not yet been obtained to warrant the expectations of much copper, the existence of which may be relied on deeper. I particularly noticed a

lead lode, bearing nearly north and south, and doubtless the same as that one worked in Holmbush and the Callington Mines, and which was very productive; but I did not fail to observe also that this lode, continuing through a beautiful channel of killas, had on its southern boundary an even course of great breadth. I traced this course from the source to six miles west of it. On the northern side stands the Kitt Hill granite range, and crossing this north and south level, and near the centre of the sett running from east to west, are the rich silver lodes of Wheel Brothers and Silver Valley. The gossan and quartz from the back of the lode, with the situation of the same, must at once convince the practical miner that Pengelly, a portion of Florence and Tonkin sett, is the one from which rich silver-lead may be expected, and that in abundance. Having to visit an arsenic mine in West Cornwall, with which I was much pleased, I hope to mention it another day.

Finsbury Circus, Nov. 4.

EAST CARADON MINE.

SIR,—As the quarterly reports and statement of accounts of East Caradon Mine do not often appear in your valuable paper, will you kindly allow me, through the medium of the Journal to caution shareholders not to part with their interest now the mine is evidently on the eve of making some valuable discoveries, as, from the last quarterly statement of accounts, there has been a considerable increase on the right side, and the agents, in their report presented to the meeting on Oct. 13, say the cross-cut driving north at the 72 is in granite, and as these cross-cuts progress we have reason to expect we shall intersect lodes of a productive character. Surely the merits and prospects of this valuable property seem to be sadly overlooked by the investing public, as I think the shares would not be standing so low in market value when any day a discovery might be made that would cause them to advance hundreds per cent. No doubt, Mr. Editor, it will be within your recollection, and in the memory of many of the readers of your valuable Journal, that some few years ago the shares of this valuable property rose from a few pounds in a few days up to 500., and who can tell but what the like results may any day take place again, seeing they have, if I mistake not, the rich lodes of the rich South Caradon Mine, which mine has already paid in dividends, if I am right in figures, the handsome sum of 369,664. Let not this fact be forgotten on the part of all interested in East Caradon, which mine also has paid considerable dividends, and, no doubt, will do so again as the northern part of the mine becomes more developed, and, no doubt, the time is not far distant when it will take rank with its rich neighbour. Therefore, let one and all hold on their interest in this valuable property, and wait results, and let not distant holders be frightened out of their shares by unscrupulous and disinterested parties, which, to my knowledge, too often has been the case.

AN ENGLISHMAN.

MINE REPORTS.

SIR,—It is very much to be deplored that the agents of many mines at home and abroad fail to see the desirability of acquainting your readers of the progress of mines they are connected with. Many could be named where it would seem as though studious efforts were made to prevent such reports appearing in the Journal, a course quite unjustifiable, and to be deplored, looking at your usual liberal tendencies.—Nov. 4.

MINER.

WHEEL WREY, LUDCOTT, AND NORTH TRELAUNY MINES, LISKEARD.

SIR,—Do any of your correspondents know, and can they inform your readers, what is really being done here? The last circular issued calls for another 5s. per share, and mention is made of machinery, like in the previous circular. The directors are going to do something, but what (it is desirable to know) is this something? Has the legal and first meeting of shareholders been held as yet, because I have failed to find any report in the Journal thereof? Of course, I do not refer to the meeting of shareholders held in June last, because such has reference to those whose names are on the prospectus, and a certain few in London. It is very singular, methinks, and does not look very regular.

EXPECTANTS.

[For remainder of Original Correspondence, see to-day's Journal.]

Meetings of Public Companies.

UNITED MEXICAN MINING COMPANY.

The half-yearly meeting of shareholders was held at the offices, Great Winchester-street Buildings, on Wednesday, Mr. CHARLES MORRIS in the chair.

Mr. M. W. BROWNE (the secretary) read the notice convening the meeting.

The report of the directors stated that for the half-year ending June 30, 1875, the excess of outlay on the old concern amounted to \$997. The total amount of expenditure on the new concern during the same period has been \$15,484, reduced by payments of \$3319 by the original owners to \$12,165 on account of the company. —Mine of Jesus Maria y Jose: Operations have been carried on as usual, but the accident in the shaft alluded to in the last report proved to be of greater extent than had been anticipated, and has caused serious expenses in repairs, and obstruction in the extraction of the ore. The reports are concluded, and that the miners can work with greater facility, it is hoped that the concern can be carried on without loss, in conformity with instructions given by the directors to the commissioner. —Mine of Rayas: The owners have continued the drainage of the mine with success, and the water has fallen since the drainage commenced about 20 metres. The sale of the ores extracted has paid the current expenses, and left profits, of which the company has received \$1153 during the six months. In July and August the sales had improved still more, and it is expected that larger amounts will gradually be paid in liquidation of the company's claim against the concern. —Mine of Santa Eulodia: The reports are concluded, and that the difficulty in purchasing any considerable quantity of the mills in Dolores had not been on full work, and no profit can be estimated to have been made during the first six months of the year. Since June 30 the commissioner had been able to secure more ore, and the mills in August were all employed. If the supply does not fail better results than those obtained in these first six months may be confidently looked for in the remaining quarters.

NEW CONCERN.—Adit of San Cayetano and Mine of Buenos Ayres: The end west in the adit advanced, in the six months ending June 30, 65½ yards, and since then, up to Aug. 21, 25½ yards more had been driven. Since April the work has been carried on in vein stuff, varying in appearance from day to day, and occasionally containing traces of silver and gold. The work is being hurried forward for communication with the end of Santo Eulodia, which is coming to meet it; and between them, on the date above mentioned, only 185 yards of solid ground was left. The cleaning out in the old mine of Buenos Ayres had been continued slowly, but the rains had sent in, and the water was troublesome. —Mine of San Antonio de la Ovejera: The Frente de Santa Eulodia in the month of March reached the lode, and was turned and continued up it eastward to meet the adit. The advance made in the six months ending June 30 was 57 yards, and from that date to Aug. 21, 40 yards more. The ventilator sent from this country has answered admirably, and the commissioner is of opinion that no difficulty will now be experienced in carrying forward Santa Eulodia to its junction with the adit. The lode in August was well packed between the walls, pretty in appearance in statite and carbonate of lime, with traces of silver assaying 1-50 marcos of silver per monton, and with 33 grs. of gold per marc.

On Aug. 24, the date of the last letter, the commissioner states that his available funds were \$1812, and the value of ore under reduction was \$12,038. Two parcels of quartz (115 tonnes) have been sent to him to obviate the necessity of his selling quartz on London in a limited market. Though no positive discovery of value has been made in the new workings since they last had the pleasure of meeting the proprietors, they consider that much has been gained in the prosecution of the exploration, the doubt regarding the position of the lode in the San Antonio ground has been completely cleared up; by the success of the ventilator the necessity of opening expensive works for obtaining natural ventilation from the surface has been obviated, and the communication of the two ends without extra expense is insured; and the works are progressing rapidly in vein stuff, showing traces of gold and silver, which, though valueless at present, may when least expected improve. The communication of the two ends of the works may be looked for, unless unforeseen obstructions intervene, in the first six months of the ensuing year; and, when once ventilation is obtained, and the water runs off without expense for drainage, further explorations towards the important setts of San Cayetano and El Diamante can be commenced and carried on with vigour on the lode itself, with every reasonable prospect of ultimate success.

The CHAIRMAN said he had but few remarks to add to the report, because as yet there was no very positive feature to announce. It would have been more encouraging had the board been in a position to state something of a positive and satisfactory character, but they were now engaged in a very simple work of exploration, and were carrying on the work as best they could cheaply and advantageously; the lode was found carrying silver, and it was only a question how long it would be opening out and becoming commercially valuable, putting upon their affairs a very different aspect to that now presented. There was nothing to damp their confidence in ultimate success—traces of silver were found in the lode, and any moment a valuable discovery might be made. He did not say they would do so at once, but certainly some day the concern would become remunerative, and well repay the shareholders for their patience and outlay. The calls had been punctually paid, and for the present the board do not call upon the shareholders for a further instalment. Should it become necessary a special meeting would have to be convened. He could only reiterate the statement in the report that, although no positive discovery of value had yet been made in the new workings, they consider that much had been gained in the prosecution of the exploration. Firstly, the doubt regarding the position of the lode in the San Antonio ground had been completely cleared up; secondly, by the success of the ventilator the necessity of opening expensive works for obtaining natural ventilation from the surface had been obviated, and the communication of the two ends without extra expense was insured; and, thirdly, the works were progressing rapidly in vein stuff, showing traces of gold and silver, which, though valueless at present, may, when least expected, improve. The communication of the two ends of the work may be looked for,

unless unforeseen obstructions intervene, in the first six months of the ensuing year; and, when once ventilation has been obtained, and the water runs off without expense for drainage, further explorations towards the important setts of San Cayetano and El Diamante can be commenced and carried on with vigour on the lode itself, with every reasonable prospect of ultimate success.—He then moved that the report and balance-sheet be received and adopted.

Mr. LIQUORISH seconded the proposition.

A SHAREHOLDER called for some explanation of the item of 10000. for arrears of call, in face of the statement just made that the calls had been well paid.—The CHAIRMAN said that since the balance-sheet was made up that item has been reduced to 3000.

Mr. BROWNE added that the amount due upon the four calls was now under 3000. Mr. MURRELL asked how long it was since a dividend had been paid to the shareholders?—Mr. FURBER said the last dividend—5s. per share—had been paid in October, 1864.

Mr. MURRELL suggested that the directors should inform their agent in Mexico if he could not see his way to make a profit the concern should be sold and the assets divided. He had suggested that course two years since, and the Chairman now shadowed forth that that decision might soon be come to. (No, no.) It was perfectly clear that as long as the shareholders continued to find money for those on the other side the shareholders would never receive one penny profit. (Time.) The CHAIRMAN said all he had intended to convey was that the directors had no power to make a call without the authority of the shareholders given at a special meeting convened for that purpose.

Mr. STAPLES said that when Mr. Murrell first raised this question the price of the shares in the market was 1½. At that time he suggested to him that he would get a great deal more by selling his shares in the market than by winding up the company. Since then the price had advanced to 6½, and yet Mr. Murrell still held his shares. He (Mr. Staples) could not understand why Mr. Murrell should again waste the time of the meeting by continuing to harp upon the same string. Why should they continue to have their time wasted by listening to such monstrous absurdity?

Mr. FURBER, in reply to a question, stated that the latest advices informed them that the vein was looking a little better; some assays gave 3 marcos, but the average was not so high. The vein was well packed, and looked more favourable.

The CHAIRMAN said that Mr. Furber had stayed for this meeting at great personal inconvenience, as, from his very bad health, he had intended to leave to day for the Continent. He hoped most sincerely that Mr. Furber would derive benefit from his journey.

Mr. ROMNEY had thought the question of continuing the development of the property had been settled by the shareholders themselves—that the new concern should be developed until the final calls had been made and expended. After that it might become a question for consideration as to what course should be adopted for the future. Only 10s. out of the 15s. had as yet been called up. The time for the remaining calls to be made had been long passed, owing to the discretion exercised in the expenditure of the capital. He was an old shareholder, and he must confess he could not understand how anyone could persist in attending the meetings, and by re-opening this vexed question damage the market value of the shares. (Hear, hear.) If the company were to be liquidated now what would the shareholders get? The shares in the market were now worth about 3½; if Mr. Murrell were dissatisfied why did he not sell his shares? His fellow shareholders would be perfectly content to get rid of these agitators. (Hear, hear.)

The report and accounts were adopted unanimously.

Mr. MURRELL said he was perfectly satisfied to leave the company's affairs in the hands of the present shareholders; he knew some of them personally.

A SHAREHOLDER asked if the Chairman could give any idea when a dividend was likely to be paid? Personally, he intended to stick to the ship to see the result.

The CHAIRMAN said he could no more reply to that question than the proprietor who made the enquiry.

A unanimous vote of thanks was passed to the Chairman and directors.

The CHAIRMAN, having acknowledged the vote, hoped the time was not far distant when their property would be of a far greater value than it was to-day.

The meeting then separated.

IMPERIAL BRAZILIAN COLLIERIES.

The half-yearly general meeting of shareholders was held at the City Terminus Hotel, on Wednesday.

Mr. JOHN O. SURTEES in the chair.

The report of the directors stated that since the last general meeting they have been continuously engaged in efforts to bring the company's affairs to a more satisfactory position; they have been endeavouring to arrange for an advance of capital, and have also continued to press forward the measures necessary to secure the desired contract for a monthly supply of 1000 tons of the company's coal to the Brazilian Government. This contract, if secured, would, according to a calculation recently made by Mr. Tweedie, the company's manager in Brazil, yield a profit of about 75000. per annum, which, after paying interest on debentures and the dividends on the preference shares, would leave a sum equal to about 50. per cent. for dividend on the ordinary capital. In the efforts to obtain this contract the directors have been ably seconded by Mr. Tweedie; but they regret to say that, although favourably entertained and reported upon by the Government officials, this desirable object has not yet been attained, in consequence chiefly of the late change in the Ministry at Rio de Janeiro. The committee appointed at the last meeting has regularly met the board in conference from time to time, and devoted considerable attention to the company's affairs, and the directors feel pleasure in acknowledging the services thus rendered, and the assistance derived from the committee's advice and co-operation.

Mr. Tweedie's letter of Oct. 10, 1874, says—"All the material is on the ground, and the whole of the permanent work is on the eve of completion, and when this is finished the company will be in possession of as complete and compact a colliery as could well be constructed." It is only proper that the shareholders should be made fully acquainted with, and clearly understand, the present position of the company's affairs. The board, therefore, think it right to intimate that on Nov. 6, a half-year's interest will become due on the debentures. The funds in hand will be insufficient to meet this interest and other demands, and it will then be in the power of unsatisfied debenture-holders or other creditors to take proceedings for a compulsory winding-up. The directors, consequently, seeing that their efforts to obtain further capital under the existing conditions have proved unsuccessful, deem it expedient now to recommend that the necessary steps be at once taken for a voluntary liquidation, with the view of disposing of the company's property while it is yet under the shareholders' control. They think it better that the steps should be taken by the shareholders themselves than as the result of possible hostile proceedings on the part of creditors.

The CHAIRMAN said he had been asked by his colleagues on the board to take the chair on the present occasion, and he willingly did so, although it was anything but a pleasant task; if it was unpleasant for shareholders to be called together to be told their money had been all sunk (as far as they could see) without the hope of getting it back again, it was doubly unpleasant to the directors to have to announce it, after having devoted a great deal of time and attention to it. During the past year and a half the directors had endeavoured, with the little remaining money which there was, to turn the corner of ill luck, and bring the company to a success. In conjunction with the committee which was appointed at the last meeting the directors had worked on endeavouring to find some mode of bringing the company to a success; they still had the same belief which they had ever held, that the shareholders had a valuable property, that it might be made a great success, and that one day it would be made to pay very handsomely indeed, but who it was that would receive the benefit would rest with the shareholders themselves. As he had said, the directors believed the property to be exceedingly valuable, and that it was in a very efficient state they had heard from Mr. Tweedie, who was a man of honour, and a man in whom implicit belief might be placed; everything was in the best order, and a great deal of money had been spent in getting the property into that condition, and it was a lamentable thing for the directors (as they were obliged to do) to come before the shareholders and state that they advised the winding up of the company. Before coming to that conclusion the directors had had a long deliberation with the members of the committee, and they had come to that decision in the hope that it would lead to the reconstruction of the company. The directors were convinced that the property was a valuable one, and would eventually pay, provided that the plan which they were about to propose was carried out—that the company should be wound up voluntarily, and a liquidator appointed with a view to the reconstruction of the company. However, at the conclusion of the proceedings of the present general meeting an extraordinary general meeting would be held for the purpose of considering that question, and, therefore, he would not make any further remarks upon it at present, but simply confine himself to the business of the present meeting—the adoption, or otherwise, of the report and accounts. The balance-sheet gave a fair and clear view of the position of the company; it showed that the directors had no funds with which to carry on the business of the company satisfactorily, and that was a good reason why the directors thought it desirable to call an extraordinary meeting. He should be happy to answer any questions which any shareholder might ask as to the figures in the balance-sheet. There was only one point he would call attention to; it would be seen by the balance-sheet that the expenditure had been reduced to the lowest possible limits on this side, the object of the directors having been to curtail the expenses as much as possible. It would be seen that there was a marked decrease in the London expenses as compared with the expenses some time ago. He moved the adoption of the report and accounts.

Mr. SUTTON seconded the resolution.

A SHAREHOLDER said that on Oct. 10, 1874, Mr. Tweedie wrote as follows: "All the material is on the ground, and the whole of the permanent work is on the eve of completion, and when this is finished the company will be in possession of as complete and compact a colliery as could well be constructed." He would ask the Chairman whether that was the case now?—The CHAIRMAN: Yes, we have letters stating that we have as good and perfect a colliery as any in the world, and in as good a condition. We have had to expend a large amount of money in compliance with the desire of the Government in re-bricking the whole of the shaft, which took away a large amount of our available funds.

Mr. BURBIDGE considered that the gentlemen who had supplanted the original directors at the board had not done their duty, and he could not imagine a more weak measure than the recommendation to wind-up the company after there had been about 100,000. expended. If this resolution was passed all the money which had been expended would be utterly and irretrievably lost. He objected to Mr. Laity having been sent out at a cost to the company of 5000.

Mr. MAUDE: The objection should have been made at the time Mr. Laity was sent out.

Mr. SUTTON (a director) said that Mr. Burbidge held only five shares in the company, which he got from one of the promoters, and he had also been engaged to advertise it. Therefore any remarks which Mr. Burbidge made must be taken for what they were worth.

Mr. BURBIDGE said that as a small shareholder he had fully as much right to express his opinion as gentlemen who were large shareholders. Many of his own friends were interested, and he himself was interested indirectly in the royalties, therefore he had a large interest in the concern, and, in fact, was doubly interested that the company should not be wound up. He believed Mr. SUTTON only held five shares when he joined the board.

The CHAIRMAN said such was not the case. Mr. SUTTON took 100 shares.

Mr. SUTTON said he subscribed 5000.

A SHAREHOLDER said he thought the present discussion was scarcely relevant to the motion before the meeting.

The CHAIRMAN said he must ask Mr. Burbidge to keep to the point.

Mr. BURBIDGE said he could not help the matter assuming a personal form. Policy, as a rule, was personal, and he considered the policy of the directors most destructive to the interests of the shareholders. Naturally, he was embittered to see such a policy recommended, not for himself so much as for friends, who held very largely, and to whom he had always spoken in the highest terms of the propriety. If it was personal to say we had no confidence in the present board was personal, and he trusted the shareholders would not adopt their recommendation to wind up.

Capt. FOWLER: I should like to move that the report be adopted, omitting the paragraphs which recommended the winding-up.

The CHAIRMAN said the board really had no objection to this course, as the question of winding up would be discussed hereafter.

The report was then adopted, omitting the paragraph which recommended the winding-up of the company.

The meeting was then converted into an extraordinary general meeting, to take into consideration the present position and prospects of the company, and the winding-up of the same; and, if deemed desirable, to pass an extraordinary resolution to the following effect—"That it having been proved to the satisfaction of the company that it cannot, by reason of its liabilities, continue its business, it is advisable to wind-up the same in pursuance of the provisions of the Companies Act, 1862-67, and also to pass a resolution appointing a liquidator or liquidators for winding-up the company."

The CHAIRMAN said the shareholders would remember that a year ago Mr. Bower, who then filled the chair, stated that the directors would state, as far as they could, honestly and straightforwardly the position in which the company was. As soon as the directors found it hopeless to continue the company the board, after deliberation with the members of the committee, thought it advisable to call the present meeting. The board had used the greatest exertions to get money for every possible source; Dr. Goodall and Mr. Maude talked the matter over with the board, and at last they thought if the debenture-holders would forego their interest for 12 months it would enable the directors to get money advanced, and work lower down than the present seam, and get a better coal. The coal which was now obtained from the 7-ft. seam if it was in a country where house coal was used would be very valuable, but it was not available for the two purposes for which it was most required in that country—the making of iron and steam coal. The directors sent out a circular to the debenture-holders, asking them to give in their adherence to the scheme, and to withhold for twelve months the interest, in order that the directors might endeavour to get their hands relieved, and get money elsewhere. Twenty-one debenture-holders, representing 32000., acceded to the wish, three, amounting to 6200., actually dissented, and there were twelve who did not reply at all, who held a gross amount of 63200. The directors sent a second note, which produced no reply, and finding that only 32000. agreed to the scheme out of 100,000. It was impossible to do otherwise than consider that they were bound to pay the interest when due. At the last meeting all the money was spent, with the exception of 5000., which had been paid into Maria's bank ten days before it was expended. At the last meeting he himself expressed an opinion that the company would get the money back; some gentlemen laughed at the time, but he was happy to say every penny had been paid back, together with 11. 19s., which had been paid for protesting the bill, and that was the whole of the assets which remained in this country, the balance available being now 5400., and when that was gone there was not a single penny left, exclusive of the property, engines, and everything on the other side.

A SHAREHOLDER: Has the manager's salary been paid up?

The CHAIRMAN: Not entirely. The balance-sheet would show the amount of liability to Sept. 30, and the estimated liabilities since amounted to about 3000., and therefore the total liability would amount altogether to about 15000. Then, on the 6th inst. there will be 5000. due for debenture interest, and all they had to meet that was the 5400. in the bank. It was impossible, therefore, for the directors to do anything but call the shareholders together. Something must be done, and if it was decided to wind up the company it would be much better to wind it up voluntarily than to wind it up compulsorily, and the directors felt that if they did not call the shareholders together now some hostile creditor, or some debenture-holder whose interest was not duly paid, might find it would suit his purpose to take proceedings against the company, and the thing would thus be taken out of the shareholders' hands. The directors in recommending the present course had taken the best step they could in the interests of the company. All the directors had a substantial stake in the company, and the directors to day recommended that the company should be wound up cheaply and expeditiously, mainly with the view to re-constitute the company. If reconstruction could be established on anything like fair ground the directors would take a reasonable and fair amount of the new capital. If the present shareholders or the public would not come in with more money then they could endeavour to sell to the Brazilian Government or other, but it would undoubtedly be most valuable to the Brazilian Government. The directors had not yet given up all hope of getting from the Brazilian Government the contract which had been so long expected; the last letters from Mr. Tweedie gave the board every reason to believe it would be granted. But in the meantime, if the creditors were not stopped from taking proceedings, the company would suffer. Mr. Tweedie had not written anything definite regarding the contract, but from his letter there seemed to be a chance of the contract being granted; in a letter which had been written to the Minister of Marine to the Council of State his Excellency thought it would be a good idea to use the Rio Grande coal mixed with the Cardiff coal.

Capt. FOWLER enquired whether the negotiations for the contract would not be injured by winding-up the company?—The CHAIRMAN said it was a matter of opinion; the directors thought not. A liquidator could conduct the negotiations as well as a board of directors.

Admiral Sir WM. KING HALL thought the shareholders should be very careful before passing a resolution for winding up the company; he doubted whether by doing they would not forfeit the property. He asked the opinion of the legal adviser on the subject.—The CHAIRMAN: But it is a question of money—how are we to go on? If any gentleman will lay down 50000. it may become a great success. You must remember that the day after to-morrow the interest is due; what are we to do if it is not paid? If you would wind the company up now it would stop any action by hostile creditors.

Rear-Admiral Sir William King Hall, Capt. Fowler, the Honourable Albert Petre, and other shareholders expressed a strong wish that the opinion of the solicitor of the company should be expressed at the meeting as to the course proposed by the directors.

The CHAIRMAN said the directors had been advised by a solicitor, though not by the solicitor of the company, but he begged, in accordance with the wishes of the shareholders, to call upon Mr. Walter Webb to state his views.

Mr. WALTER WEBB said: As the Chairman has informed you, I am in no way responsible for the report issued by the directors, or for their recommendation that it is to the interest of the shareholders that the affairs of the company should be wound up. The directors as ordinary men of business no doubt considered that it was their duty, inasmuch as their efforts to obtain further capital had not been attended with success, to call you together to day for the purpose of resolving on what to them appeared the only alternative—the liquidation of the company. This step, involving as it always does important considerations, should never be recommended by a board of directors unless they are able to justify it by the very strongest reasons, and I have failed to gather those reasons from the Chairman's statement. It may, therefore, be taken that the position of matters from the directors' point of view is this—the company has exhausted its funds, what are the shareholders to do but to wind up? In the case of an ordinary company this reasoning might be sufficient where the property is one that can be realised and distributed, but the property of this company was of a special nature. It consists of a right to a concession granted by the Imperial Government of Brazil to work certain coal mines in the province of Rio Grande, also of a railway to the mines. The railway colliery machinery and plant would be valueless unless the privileges of the concession could be kept alive, and it occurs to me that if the winding-up to day resolved upon the company will run great risk of having its concession forfeited, because after the winding-up commences the company only exist for the purpose of winding-up its affairs, and, therefore, the obligations imposed upon the company of continuing the collieries as a consideration for the privileges conceded could not be performed, and the Imperial Government might consider it to be its duty to determine the concession so soon as the existence of the company had been determined. It is, therefore, a matter of grave doubt, whether the programme suggested by the directors can ever be given effect to, and their programme is this—that you shall resolve to wind-up the company voluntarily to-day, and that steps shall then be taken forthwith to dispose of the property. Now, I say that you would not be able to make out a title to the property, because the concession does not constitute an assignable interest; and unless the Imperial Government granted a fresh concession to the purchaser, or renewed the concession, which it could only do by invoking the same power that created it, no purchaser could be obtained for the property. In estimating the chances of the liquidator obtaining from the Imperial Government authority to sell, it must be borne in mind that the Provincial Government are the holders of 10,000. worth of shares in the company, which by your resolution to-day you will virtually cancel and render valueless without any notice at all, and without giving them any opportunity to be heard upon so important a matter as the winding-up of the company, and it is not likely that the good offices of the Provincial Government will be used with the Imperial Government in obtaining from the latter the sanction requisite before any new company or individual could enjoy those privileges without which the colliery and works would be valueless. The Brazilian people, moreover, would have cause to complain of the summary winding-up of the affairs of the company in the manner proposed. Whether the position is considered, therefore, with reference to the concession of the Imperial Government with reference to the company's relations with the Provincial Government, or with reference to the prospect of selling the colliery, it strikes me that the winding-up proposed to you to-day is equally disastrous. For technically I believe the winding-up would entail a forfeiture of the privileges of the concession—the good offices

of the Provincial Government will not, probably, be exercised to aid the liquidator in obtaining from the Imperial Government the necessary revival of the concession in favour of a purchaser, and the Brazilian shareholders will, no doubt, exercise any right they may by the local law possess to secure a preferential position over the company's property in their country. Again, if it be determined that no further funds are forthcoming to carry out the undertaking, and, therefore, that the property must be realised, why cannot this realisation take place, or, at all events, the necessary preliminary negotiations without a liquidation? Surely a better price is likely to be obtained for the property if the company is a going concern than if it is stopped, and is in the hands of a liquidator. Then, again, the position of the debenture-holders has to be considered. They have a first charge upon the whole undertaking for 10,000*l.*, and they have a right to be heard when you propose to them to impair the property of the company by passing a resolution, which may have the effect of prejudicing the rights of the company under the concession, and thereby impairing the value of their security. The report of the directors seems to suggest that if a voluntary winding-up be resolved upon, the debenture-holders will have their hands tied, and will not be able to do so to-day for a compulsory winding-up of the company in order to be in a position to secure. Now this involves a serious misapprehension of their position, which is this—Immediately upon the company going into liquidation the debenture-holders, whose hands so long as the company is kept going are tied, down by a Deed of Trust, are entitled at once to file a bill for the appointment of a receiver, and to have their security realised. Thus, as they have control over all the property of the company until their 10,000*l.* with interest and cost are paid, there is but little probability of any balance for the shareholders, even if the debenture-holders by prompt and judicious proceedings be enabled to land themselves. Moreover, the passing of a resolution to wind-up voluntarily will deprive the debenture-holders of their right to apply to the Court for a compulsory winding-up; and you will, therefore, see that the objects aimed at by the directors are frustrated by the very proceedings which they suggest—winding-up the company. I do not understand from the directors that any creditor is pressing for payment or calls for the winding-up of the company. The winding-up they recommend is in the nature of a precautionary step, but if it is to be attended with the serious consequences I have pointed out it will be well for you to pause before inviting your own destruction, and thus precipitating an end to the existence of the company for all purposes except for the winding-up of its affairs, and thus running the risk of the forfeiture of the concession, the withdrawal of the assistance you have all along received from the Provincial Government, and the alienation of the Brazilian shareholders, and also inevitably bringing upon the company the hostility of the debenture-holders, who the moment you pass the resolution will for their own protection apply to have the control of the undertaking handed over to their receiver, in order that their property may be realised in the hands of an insolvent company to retain possession of their creditors' shares, and that as you are not able to pay them the amount of their principal and interest they will realise the property which has been duly assigned to trustees for their benefit in their own way, and will not consent to your retaining longer the control over their property, nor applying any portion of it towards payment of expenses, the whole having been pledged as security to them, and they can insist upon their rights to realise their security in their own way. This is no less law than common sense; and as I see several debenture-holders present, I am quite sure they will tell you that they are now proposing to invite, and bring upon yourselves worse than those you are now proposing to invite, and bring upon yourselves to-day. Therefore, at all events put off the evil day, and in the meantime, probably, by conference with the debenture-holders, and by the shareholders putting these shoulders to the wheel some arrangement may be come to whereby the operations of the company may be continued, or if not, for the reduction of the expenses to a minimum pending negotiations, to be properly conducted, with the concurrence of the debenture-holders for the sale of the property. The same amount of money expended in keeping the company together during the negotiations without winding-up as would have to be expended if the winding-up is resolved upon may be attended with results more satisfactory than can be attained if the company goes into liquidation. For these reasons, therefore, I would urgently entreat the shareholders to consider well before they act upon the suicidal policy suggested in the report, and by all means an emphatic negative should be given to the proposition that the company be wound-up. So far as any influence I possess is concerned (and a great many clients of mine are debenture-holders and shareholders), it will be given in favour of continuing the company's operations, and it strikes me that both shareholders and debenture-holders should co-operate with this object, and this alone in view.

Mr. PIKE (Messrs. Merriman and Pike) said that if the company was put into liquidation the claims of the creditors would be suspended, and no individual creditor could take immediate action against the company.

Mr. WEBB said the best policy for the shareholders was to act in accordance with the debenture-holders. Let a committee of shareholders and debenture-holders be appointed to decide how money should be obtained to continue the concern.

The CHAIRMAN: We have told the debenture-holders all this.

Mr. WEBB said that most of the shareholders were debenture-holders also, so that debenture-holders were not strangers.

Mr. MAUDE said he was willing to subscribe his share of the new capital provided the other shareholders did the same.

After some further discussion,

The CHAIRMAN moved that the company be wound-up voluntarily.—Dr. GOODALL seconded the resolution.

Admiral HALL, an original director, went to some length into the history of the company, and defended the action of the original board, who, he contended, had done the best that could be done for the company.

Mr. LAITY said he was asked to go to Brazil, and he did so at considerable inconvenience to himself and considerable personal loss. He indignantly repudiated the insinuation of Mr. Burbridge, and said he was sorry that gentleman had left the room, and was not present to hear his remarks. When he was in Brazil he heard from competent people that the coal was of excellent quality, and small samples which he had brought away from the mine had been tried at Rio Grande de Sul with good results, and a merchant of high standing had expressed his willingness to become the company's agent.

Admiral HALL said the report of Mr. Laity was very valuable.

Mr. SUTTON said an important point was whether the debenture-holders would forego their interest, because if it was not, no use for the shareholders to subscribe money to put in the pockets of the debenture holders. (Hear, hear.)

A suggestion was then made that the meeting should be adjourned, and the question was then raised whether the debenture-holders would forego their interest.

Mr. WEBB, Capt. FOWLER, Hon. A. H. PETRE, and one or two other gentlemen, in reply to Mr. Sutton, said they would undertake that the debenture-holders, whom they represented, would not take any steps during the interval of adjournment.

After some further discussion the meeting was adjourned for a month; in the meantime the directors will send round a circular to the shareholders and debenture holders requesting them to subscribe their proportion of the new capital.

It was ultimately agreed by most of those present to subscribe to the extent of 10 per cent. of their holdings of shares and debentures, in order to supply the necessary funds for carrying on the works, the money so subscribed to come under the denomination of a second mortgage on the property. A resolution was then passed adjourning the meeting for a month, to take the opinion of the debenture and shareholders generally, and to again ask the debenture-holders to postpone claiming their interest for the ensuing twelve months.

A vote of thanks to the Chairman closed the proceedings of the meeting, which accordingly stands adjourned until Dec. 3.

SANTA BARBARA GOLD MINING COMPANY.

The half-yearly general meeting of shareholders was held at the offices of the company, the Albany, Liverpool, on Saturday, Oct. 30, Mr. E. S. HOLLAND in the chair.

The notice convening the meeting was read, and the minutes of the last half-yearly meeting also read, and, on motion, confirmed.

The report and statement of accounts were taken as read.

The directors have, in accordance with the Articles of Association, to present to the shareholders the audited accounts for the half-year ended June 30. The mine working account shows a profit on the working of the mine during this period of 41*l.* 8*s.* 2*d.*, after charging to capital account 105*l.* 4*s.* 4*d.* expended on the erection of the new No. 4 stamps and other new works essential to the extended operations at the mine. The profits of the current half-year promise to be satisfactory enough to warrant the expectation of a dividend early in 1876. The directors are pleased to state that the new No. 4 stamping-mill has been completed and set to work since June 30, and is working well, giving a large increase to the stamping power that will enable the manager to treat larger quantities of mineral than at any previous time during the company's operations. It is not anticipated that any very heavy expenditure similar to that during the half-year under review will be required for further stamping power for some time to come, although no doubt more stamps will eventually be required as the mine becomes more developed. The lode in the mine has, on the whole, maintained its general size and character during the half-year, although the average yield of the mineral is somewhat lower than during the preceding six months of 1874. Since June 30 both the size and auriferous yield of the lode, however, have improved, and the directors are gratified to state that the manager advises in his last communication that he had never seen the mine looking better. The following is the monthly return of mineral stamped:—

Month	Tons	Yield	2188	Ozts.	Gold	= 3-075	Ozts. per ton.
January	712	708	2074	—	—	—	—
February	708	786	2793	—	—	—	—
March	786	807	3580	—	—	—	—
April	807	787	2403	—	—	—	—
May	787	814	2444	—	—	—	—
June	814	—	—	—	—	—	—

Being an average of 784 tons of a produce of 3-154 ozts. per ton stamped per month, against an average of 559 tons of a produce of 3-352 ozts. per ton per month for the previous six months of 1874. The directors have pleasure in testifying to the zeal and ability shown by the manager and staff at Paris during the period under review.

The CHAIRMAN said the report, though brief, speaks for itself. The directors are much pleased to be able to meet you for the first time since this company commenced operations with a statement of accounts showing an actual profit on the half-year's working of the mine, which, though inconsiderable, they hope and believe is only a small earnest of much larger profits hereafter. The gold returns, as compared with the previous six months, show an increase in value of 61*l.* 10*s.*, while the expenditure has decreased. The tonnage of stamped, 4584 tons, shows an increase of 1220 tons in the quantity stamped, compared with previous six months. You will observe that the sum of 105*l.* 4*s.* 4*d.* has been expended on the new stamp, new stamping-floor, and a new water-course, and the benefit of this outlay is now being felt in the material increase of the stamping power. As you have been informed by circular, the estimated profits for the two months subsequent to June 30

—July and August—have been 453*l.* 2*s.* and 617*l.* 3*s.* respectively; these satisfactory results were chiefly brought about by an increase in the yield of the ore to 3-575 and 3-734 ozts. per ton in the respective months, but little advantage having been obtained from the new stamps, which were only set to work on good mineral early in August. I must remind you that these estimated results at the mine are subject to loss on exchange, agent, and English expenses. I think I may safely say that our prospects are very good indeed. Mr. Hilleke advises that the size of the lode has increased since June 30, and that the mine is looking very well. The stamping power is good, 49 heads of stamps being available; water supply also ample, and preparations being made to sink the main shaft deeper, and enable him to increase the monthly tonnage; and it is hoped that as the mine is more opened out, before many months have elapsed, between 12,000 and 15,000 tons of mineral will be crushed monthly. With regard to any estimate of probable results, I would draw your attention to Mr. Thomas Tregellas's report, of October, 1873, on the Part Mine, in which he estimates the mine, when developed sufficiently, to yield 1800 tons of mineral per month, for the stamps would give a profit of about 7500*l.* per annum, or (say) about 9*s.* 2*d.* per ton on mineral yielding 3½ ozts. per ton, and I would remark that the company made a profit on the 959 tons returned in August of about 13*s.* 2*d.* per ton, or actually some 4*s.* per ton more profit than Mr. Tregellas estimates on a considerably less output; therefore, I leave you to draw your own conclusions as to what the mine is likely to make, when 1800 tons per month is returned. And I believe that we have in Mr. Hilleke, a manager who is thoroughly qualified to make the most out of the mine.

After replying to the remarks of several shareholders, the CHAIRMAN moved the adoption of the report and balance-sheet, which was seconded by Mr. A. PIGGOTT FLETCHER, and carried unanimously.

On the motion of the CHAIRMAN, seconded by Mr. WILLIAMSON, and carried unanimously, "That the best thanks of the meeting be given to Mr. E. J. F. Hilleke, and the staff at Paris, for their services to the company during the past half-year."—A vote of thanks to the Chairman and directors closed the proceedings.

JAVALI COMPANY.

An extraordinary general meeting of shareholders was held at the offices, St. Swithin's-lane, on Wednesday, to confirm the resolutions passed at an extraordinary general meeting, October 15, Sir LEOPOLD HEATH in the chair.

Mr. E. SCHUBERT (the secretary) read the notice convening the meeting.

The following resolutions were unanimously confirmed:—

The 6th Article of Association, as varied by special resolution, passed on June 27, 1870, and confirmed on July 15, 1870, be and is hereby further varied, and, as varied, shall read as follows:—"The business of the company shall be managed by the board of directors, whose number may be varied from time to time by the company in general meeting; but until so varied shall not be less than three, or more than five; and it shall be requisite that every director continue the owner of 200 shares of the company at least."

That the 11th Article be and is hereby rescinded, and in lieu thereof the following is hereby substituted as an Article of Association:—"11. The directors, exclusive of the managing director of the company, if any, shall be entitled to take for their remuneration in every year, so long as no dividend shall have been declared on the ordinary shares of the company, the sum of 300*l.*; and in every year from the time at which a dividend of not less than 5 per cent. per annum shall have been declared on such ordinary shares of the company, the sum of 500*l.*, with an additional 5*l.* for every additional 1 per cent. over and above the first 10 per cent. of such dividend; and the directors shall divide the gross amount of their said remuneration amongst themselves in such manner as they, or the majority of them, may agree; and that the last mentioned substituted Article of Association shall come into operation from Jan. 1, 1875."

A vote of thanks to the Chairman closed the proceedings.

ROOKHOPE VALLEY MINING COMPANY.

An extraordinary general meeting of shareholders was held at the offices, No. 8, Austinfriars, on Tuesday, for the purpose of passing a special resolution or resolutions authorising the sale or disposal of the business, estate, and effects of the company to another company, on such terms as may then be agreed upon.

Mr. YORK proposed that, in consequence of the indisposition of Mr. R. Wilson, the Chairman of the company, Mr. Peter Watson be voted to the chair.—Mr. W. GREAME seconded the proposition, which was put, and carried.

The London manager read the notice convening the meeting.

The following plan was proposed:—To transfer the property to another company, to be formed in 15,000 shares of 3*s.* each; 5000 of these shares, free or fully paid up, to be given to the shareholders in the present company, and another 5000 shares, also free or fully paid up, to be given as a bonus, share for share, to those who subscribe for the remaining (or third) 5000 shares, payable in three instalments. Of course, the debts of the old company would be paid—say, about 1500*l.*—which would leave a clear 8000*l.* for working the mine, while those shareholders who came in for their proportion of the new capital would hold exactly the same proportionate interest in the new as they did in the old company, while, on the other hand, those who took up more than their proportion of the new capital would get a proportionate further bonus, and, in fact, would hold a proportionate interest in the property to the amount they subscribed.

The CHAIRMAN said he much regretted that Mr. Wilson had been unable to take the chair upon the present occasion. The object of this meeting was plainly set forth in the notice just read. Notwithstanding the wilful damage done to the machinery, there had just been sold 30 tons of ore, at 12*l.* 12*s.* per ton, realising 378*l.*; the monthly cost against the return was 200*l.*, so that really the mine was actually now in a profitable condition. Full development, however, was impossible for want of capital. At the last meeting, when he was at the Great Laxey, in the Isle of Man, it seemed that convincing evidence was adduced that there were some most important points waiting to be tested, which could not be tested until the necessary capital had been obtained. Within the past few days a letter had been received from their manager, Mr. Blenkiron—a man well-known in the North of England as the manager of the Pateley Bridge Mines and other important undertakings. Mr. Blenkiron states in his letter—"It would be a great pity for the present shareholders if the concern was sold, and their interest lost. I fancy there would be no difficulty in finding a purchaser, and the general opinion is the mine would pay almost from the commencement if properly worked. I quite think this myself." In the face of such advice, given by a man of such standing in mining, it did appear to him (the Chairman) a most suicidal course to allow the mine to pass into other hands. The present company had expended 15,000*l.*, besides the amount realised by the lead returns, representing a sum of not less than 25,000*l.*, and at one time the property was selling in the market for some 90,000*l.* or 100,000*l.* Such was the confidence of the directors that they had retained a very considerable interest, and were to-day the largest shareholders in the company. That confidence was unimpaired so far as the mine itself was concerned—indeed, they were more convinced than ever that with the small amount of additional capital now required Rookhope Valley would at least fulfil the promises made at the formation of the company. There was every disposition on the part of the holder of the bill of sale to co-operate with the present shareholders if they would only come forward and assist themselves. By supporting the proposition he was about to submit they would save to themselves a mine already in a profitable condition, and if adequately developed could, no doubt, be shortly brought into a satisfactory dividend state. He hoped the shareholders for their own sakes would come forward and subscribe as soon as possible, because the resolution if passed to-day would require to be confirmed at a subsequent meeting. The resolution he wished to propose was—

"That the directors are hereby authorised to sell and dispose of the business, estate, and effects of the Rookhope Valley Mining Company to another company, consisting of a capital of 25,000*l.*, in 15,000 shares of 1*l.* 10*s.* each, on the following terms and conditions:—That the debts and liabilities of the present company, and the expenses of winding up the same, the whole not exceeding 2000*l.*, be paid by the said new company, and in addition that 5000 fully paid-up shares in the said new company be allotted free, and without payment, to the shareholders in the present company; and, further, that another 5000 fully paid-up shares be allotted free, and without payment, by way of bonus, share for share to those who subscribed for the remaining 5000 shares at 3*s.* per share, to be payable in not less than three equal instalments."

The CHAIRMAN said the board had received several letters approving the scheme, and the holders agreeing to take their proportion of shares in the new company.

Mr. HALL, in seconding the proposition, congratulated the Chairman upon his re-appearance among them.

The CHAIRMAN mentioned that the meeting represented in person and by proxy something like 9000 shares, the holders of which cordially approved the scheme of re-construction.

Mr. GREENWILL wished to know if the proposed scheme could be carried out legally?—Mr. MURCHISON said it could be carried out in a perfectly legal manner, providing the resolution be passed by two-thirds of the members present at this meeting, and a subsequent one to be held in less than a month.

Mr. GREENWILL said he had seen several shareholders who were in favour of the scheme and would support it; upon the ground, too, it would be unjust to themselves and to the other shareholders to allow the property to slip through their fingers.

Mr. MURCHISON said that Mr. Blenkiron believed the mine could be made a permanently dividend-paying property with an additional outlay of 3000*l.* Under these circumstances the directors in the new company should have the power to commence business and carry on the mine if (say) 3000 of the shares were taken; that would give them nearly 3000*l.* after paying off the bill of sale and other liabilities, and leaving the property perfectly free.

Mr. W. GREAME said that something should be known about the bill of sale, and what was likely to be done under it.

The CHAIRMAN said a letter had been received from the holder of the bill of sale

to the effect that he would allow the matter to stand over to see if the plan now proposed could be successfully carried out.

The resolution was put and carried unanimously.

A vote of thanks to the Chairman closed the proceedings.

WEST MARIA AND FORTESCUE CONSOLS.

The general meeting of shareholders was held at the company's offices, Glasgow, on Oct. 29.—Mr. JOHN E. WATSON in the chair.

The notice convening the meeting having been read, and the minutes of the preceding one confirmed, the subjoined report of the agent was submitted:—

Capt. Wm. Skewis, after reporting upon the various points of operation, continued—The mine is being worked chiefly on tribute, principally on ground in the upper levels, which would not pay previous to the erection of the arsenic works. It may be well to state that we are yet at the mangle ore, but nearly all the copper ore is calculated before being sold, which adds considerably to our sales of crude arsenic, and increases the value of the ore. It is very important to observe that in stoping the bottom of the 93 the ore-bearing part of the lode has been found to go down almost perpendicular, and will, therefore, be to the south of the present level at the 104. Such being the case satisfactorily accounts for that level not being so productive as was anticipated, and, therefore, there is still good ground for believing that the mine will prove valuable in depth. Looking at what has taken place in other mines in our own neighbourhood, where no ore to pay was found till a much greater depth than we are yet at was reached, and especially in Gunnislake (Glitters), when under our own advice the shaft was sunk 50 fathoms through unproductive ground, and when the 150 fm. level was reached, rich courses of ore have been found, from which dividends are being paid, with every prospect of continuance; and, moreover, seeing that the north and south lodes will, in all probability, come together in another 20 or 30 fathoms sinking, which is most important, as in our mine the lode has been always found rich when the side branches joined it. Again, many of our shareholders may be aware that in Devon Great Consols the eastern shafts were sunk to a much greater depth than our mine before they came to their great courses of ore. Looking at all this, we feel it right to recommend energetic sinking of our shaft, and we would advise that a boring machine should be obtained, which though it would entail some additional outlay at first would, from the economy and speed of working, soon repay itself.

The CHAIRMAN, in moving the reception and adoption of the report and accounts, explained that the debit balance had increased from 432*l.* 11*s.* at the date of the last account to 724*l.* 14*s.* 8*d.* at present. The arrears of call amounted to 410*l.* 18*s.* 6*d.*, and their liabilities were 1032*l.* 12*s.* 11*d.* due to merchants, and 139*l.* 16*s.* 8*d.* due to the purser. They would learn from the manager's report that the ore-bearing part of the lode was going down below the 93 fm. level nearly perpendicular, and would be to the south of the present level at the 104. This was considered to be very important, as it gave good grounds for believing that the mine would prove rich in depth. It would probably be desirable to resolve to go on sinking the shaft, and to procure a boring machine, so as to work more economically and expeditiously. They would also notice that the arsenic department has been working successfully, and by its means ground which could not formerly have been worked to pay was now yielding a profit. He concluded by moving that the report and accounts be received and adopted.

A brief discussion upon the points in question having taken place it was resolved that the accounts be passed, subject to the certificate of the committee, and that the manager's report be received.

With regard to the future operations at the mine it was resolved that the shaft should be sunk with all convenient speed, and that for this purpose it would be advisable to procure a boring machine, it being remitted to the committee to carry this out. A call of 2*s.* 6*d.* per share was made, and it was resolved to apply to the lords for a remission of dues for the time being until discoveries be made equal to meet costs. The committee were authorised to take the license for Wheel William mine and the purser was directed to recover payment of calls in arrears, shares in default being at the same time forfeited.

The proceedings terminated with a vote of thanks to the Chairman.

NORTH HENDRE LEAD MINING COMPANY.

The fifth annual general meeting of shareholders was held at the Westminster Buildings, Chester, on Friday, Oct. 29, Mr. H. R. BOWERS in the chair.

The SECRETARY read the notice convening the meeting, and the minutes of the fourth annual general meeting were read and confirmed. The reports and accounts were taken as read.

The CHAIRMAN, in moving their adoption, stated that so far as the general prospects of the company were concerned they might not, perhaps, have come up to the expectations of all, but so far as his own opinion went, he was not at all disappointed at the result of the year's working, especially when it is considered that the mine is still comparatively undeveloped, inasmuch as a vein either north or south had not been out, but notwithstanding that fact, a mine which has raised ore to the value of upwards of 22,600*l.* in five years cannot be considered either a small or a poor one. The full development of the property will depend on the cutting of a lode either in the south or in the north levels; hitherto there had only been a "flat" to work upon, and when the peculiar nature of that flat was considered the work that had been done such that no mining engineer could have predicted. Capt. Lean's report this year, as well as Captain Eddy's report last year, show that the prospects of the mine are not less promising when the returns are low, when they are high, because the deposits hitherto have been a series of "pockets," and there are yet no signs that we have got to the end of our resources; he, therefore, felt as much confidence in the mine now as he did 12 months ago. The selling price of shares being merely a matter of caprice does not affect the value of the mine, and until a lode is struck there will be no more intrinsic value in the mine at one time than another, but it has every indication of proving a source of permanent income. With regard to the dividends this year being less than last year, it may be stated that the quantity of ore raised and amount realised had been about equal in each of the last three years, and if the dividends of the last two years had been equally distributed there would have been two yearly dividends at the rate of 12½ per cent. each.

The Halkyn Deep Level Company expects the shareholders of this company to contribute 5000*l.* to their capital, either individually or as a company, but as there is at present no available capital for that purpose that sum will have to be taken up by individual shareholders. At present the North Hendre Company were not troubled with the dead water of the district, but whenever a vein is cut it is supposed that the water which has obstructed other mines in the neighbourhood will be in the way of the large quantities of ore which lower workings are expected to produce.

The reports and accounts having been adopted, the following resolutions were passed:—1. That a dividend of 5 per cent. be now declared, payable on Nov. 12, which, with the interim dividend paid on April 30, makes 10 per cent. for the year.—2. That Messrs. H. R. Bowers, Urias Bromley, and William Rowland be re-elected directors of the company.—3. That Mr. John Caldecott be appointed auditor of the company.—4. That the sum of 75*l.* be voted to the directors for their attendance during the ensuing year. A vote of thanks to the Chairman for his attention to the interests of the company terminated the proceedings.

The directors in their report say that the get of lead ore during the year has been 417½ tons. Of this 375½ tons have been sold, realising 5685*l.*, and there was in stock on Sept. 30 last 40 tons, which have since been sold for 592*l.*, and 2 tons estimated at 14*l.* 10*s.* per ton, making the gross value of ore raised to be 6308*l.* The total charges against revenue, as stated in the accounts, have been 3902*l.* 9*s.*, and this leaves a balance of 2406*l.* 8*s.* 7*d.* applicable to dividends. Your directors have paid an interim dividend on April 30 of 5 per cent., and now recommend the proprietors to receive a further dividend of 5 per cent. on the paid-up capital, which will absorb 1236*l.* 5*s.* 7*d.*, and leave a balance of 77*l.* 3*s.* 7*d.* in revenue account, after having written off a further sum of 30*l.* from "Preliminary Formation Expenses Account." During the last session of Parliament an Act was obtained for the drainage of the district in which your mine is situated, and arrangements are being made to raise the necessary capital. At present your mine is not affected by other than surface water, but as the workings may at any time tap the heavy dead water which is known to exist in the district, your directors hope you will individually give to the Halkyn Drainage Company substantial support, not only because they believe it will be a first-class investment in itself, but also because they believe the carrying out of the scheme may be of vital importance to the ultimate success of your own undertaking.

WILLOUGHBY MINING COMPANY, IN LIQUIDATION.

A meeting of shareholders was held at the liquidator's office, Bishopgate-street Without, on Thursday, Mr. J. J. PYNE in the chair, at which the following reports were read, and the statement of accounts for the past twelve months (since the company has been in liquidation), showing a profit of over 300*l.* for that period, and which was considered highly satisfactory by the shareholders present, was laid on the table.

Oct. 19.—In presenting you with my yearly report I start from September, 1874, and end with August, 1875, giving you a detailed account of what has been done since the company went into liquidation.—New Lode: The 23 fm. level has been driven south 12 fms. 5 ft. The first 5 fms. of this was in a lode worth 2 tons of lead per fathom; the remainder being in an ore lode, but not to value. A rise has been put in this course of ore 5 fms. 3 ft.; when this rise is held to the drift above (a month's work) we shall have a fresh piece of ore ground for stoping. The 23 north has been driven 2 fms. 1 ft. past the intersection of Goddard's lode, where it became poor. Between these levels and the 13 there have been 59 fms. 2 ft. 6 in. of ore ground stopped away. These stopes are exhausted, with the exception of a piece of ground yet to take away between the stope in the north end of the 23 and the winz sunk below the 15.—Goddard's Lode: The 23 south has been extended 3 fms. 3 ft. south of No. 1 shaft; this end is in a poor bar of ground, but as we have two courses of ore going down below the 13, in advance of this, I calculate on soon having a productive lode here. There have been 61 fms. of ground stoped away between this and the 13, north of No. 1 shaft. Here we have a good piece of ore ground yet to take away. I may here remark that this is the course of ore driven through in the 23, which makes down from about 9 ft. below the sole of the 13. The 13 south has been driven 21 fms. 5 ft., and passed through ore ground varying from ¼ ton to 2 tons of lead per fathom, the whole of which is in advance of the 23 end, and the first ore passed through was at No. 3 shaft, which we have stoped for 3 fms. deep and 4 fms. long below the level, otherwise the sole of the lode is untouched in advance of the 23 end. There have been 62 fathoms of ore ground stoped away above the 13, between Nos. 3 and 4 shafts, and south of No. 4 shaft, which has been sunk 7 fms. from surface. The stope or end going south of this shaft (now 13 fms. from shaft), which is the most advanced point of our workings, is still yielding ore

which speaks well for the continuance of our ore ground in this direction. It will thus be seen that we have driven levels 40 fms. 2 ft., risen 6 fms. 2 ft. 6 in., sunk 7 fms. and stope 182 fms. 2 ft. 6 in.: total, 235 fms. 1 ft., from which we have sold 800 tons of lead and blende in equal quantities. Averaging this on the ore ground taken away, the product is somewhat lower than the previous year's working showed, but this is accounted for by the fact that we had to take away a good deal of poor ground that was previously left. The produce of the ground lately opened would be higher. On the whole, I consider the past year's working has been very satisfactory, inasmuch as it has fully borne out the opinion I expressed a year ago—that there were runs of ore to the south of us waiting to be opened up. Had the shaft been sunk as I then advised, in addition to the work we have done in extending the workings south, the mine would to-day be in a good paying condition. At surface we have put up a new round binnacle on the dressing floor, to work from the shaft of the jiggers, and new rolls to the crusher. The other dressing and pumping machinery is in good order, and doing its work well. Thus, taking everything into consideration, the mine is in a better position now than a year ago.—H. NOTTINGHAM.

Nov. 2.—Goddard's Lode: The 23 end, driving south, by two men, is yet close and unproductive. The new stope in back of this level, working by four men, is yielding 2 tons of blende to a fathom, with a slight mixture of lead; I expect this stope to improve for lead as we get higher. The 13 end, driving south, by four men, is worth 2 tons of lead per fathom; this is the same course of ore we are working on south of No. 4 shaft, 5 fms. above this level, and the fact that we are leaving it along the bottom of the level fully as good as in the roof shows that we have a valuable run of ore here. The stope in back of this level, going up under No. 4 shaft, is yielding 15 cwt. of lead and 1 ton of blende to a fathom; working by four men. No. 3 shaft, in the winze, sinking by four men, is down 3 fms. 3 ft. below the 13; the lode has been poor for the last fathom sinking, but is opening out again, and beginning to yield as before. The winze sinking below the 13, north of No. 1 shaft, by four men, is down 3 fathoms below the level, and worth 1 ton of lead and 1½ ton of blende per fathom; this winze is going down in the middle of the course of the ore the 23 passed through, and is being sunk to ventilate the stope in back of the 23, and so to open up the ground to better advantage for stoping. The end and stope, south of No. 4 shaft, working by four men, are each yielding 15 cwt. of lead per fathom. The 23, driving south by two men, is in a lode 3 ft. wide, composed chiefly of lime-spar, with a good deal of blende, and occasionally stones of lead, and letting out a strong stream of water; I am of opinion we have a run of ore before us here. I have put two men to effect a communication between the rise in the back of the 23 and the drift gone south from the winze below the 13, which will give us a fresh piece of ore ground for stoping. With the aid of the section and particulars I have given you I think you will not fail to see that the mine is in a better position to-day than it has ever been before. Dressing is being pushed on as fast as possible, and I shall sample 25 tons of lead on next Monday week. I have two men and a boy raising the banks of the big reservoir; when this is done it will hold one-third more water. I wish to do the same with the Bod Lake reservoir as well, and also make a new one on the north boundary of our set, which would nearly double our water power from these sources.—H. NOTTINGHAM.

LAST CHANCE.—In the absence of a sufficient number of shareholders to form the legal quorum on Thursday the meeting stands adjourned till Thursday next. The directors express regret that they are unable to submit a more favourable statement, the workings having been very costly and tedious, in consequence of the hardness of the rock through which the tunnel had to be driven to cut the lode. The report of Mr. Woodfield expresses fear that the Last Chance Mine is not destined to fulfil the expectations so hopefully entertained of it by many of its shareholders.

[For remainder of Meetings see to-day's Journal.]

THE CHANNEL STEAM FERRY.

The idea of travelling from London to Paris, Brussels, or Berlin by railway without change of carriage, and without fear of sea sickness, has thrown many a landsman into ecstasies, and now that those long wished for enjoyments are offered, unalloyed with the disagreeable alternative of a 30 mile journey through a dismal tunnel, fuming with sulphur and carbon vapors, and giving a foretaste of Pandemonium, which few would care to enjoy, it may fairly be anticipated that Mr. HUGH A. EGERTON, of Banbury, who makes that offer, will have no difficulty in finding whatever financial co-operation he may need to enable him to carry out his project. The idea of a Channel Ferry is not of itself new, but Mr. Egerton's suggestion is sufficiently different from any of its predecessors to entitle it to entirely separate consideration. In principle the system which he proposes is, no doubt, correct, although some modifications will probably be found necessary in putting it into practice. He proposes a triple hull ship, 600 ft. long and 228 ft. beam, which he estimates will lie as quietly on waves 14 ft. high (the heaviest seas known in the Channel between Dover and Calais) as though at anchor in Dover Harbour. The total cost of the ship would not exceed 125,000, whilst the returns, assuming but a moderate increase upon the present traffic between Dover and Calais alone, would leave for the shareholders an annual profit of 108,000, so that the whole cost of the ship, and all contingent expenses, would be repaid in less than 10 months from the date of completion.

Every sailor knows well enough that to sink a well closed empty barrel is practically impossible, and how certainly a well corked bottle will carry to land a painful "message from the sea" has been but too well ascertained by many who have received by that means the last sad tidings of a sinkingship. It is, in principle, the empty barrel which Mr. Egerton has adopted to secure the flotation of his maritime railway, whilst to secure the necessary speed he has elongated his barrels, so that they become double pointed cigar ships, with the important difference, as compared with Wynn's ship, that the cigars are used for flotation only. The three cigar cylinders are kept parallel to each other, and 75 ft. apart, by being attached on their upper side to girders, which carry the platform, or deck, and it will probably be found advantageous in practice to allow a free sea way for the entire length between the platform and the cigar cylinders, so as to avoid to the utmost any confinement of water between the hulls. Again, Mr. Egerton proposes to construct his railways on the upper side of the girders, so that the trains would ride 20 ft. or 30 ft. above the water line. This is obviously wrong, the proper place for the railways, with the trains upon them, being as near the water line as is consistent with the solidity of the under platform, and of allowing a free sea way between the top of the sear cylinders and the underside of the platform. Moreover, by keeping the trains at a low level there would be greater facility for increasing the stability of the entire structure, without augmenting in a corresponding degree the side surface to be exposed to the wind.

With regard to the requirements of the ship to be used for the purposes of a Channel ferry, Mr. Egerton very properly indicates the conditions which must be fulfilled, remarking that such a boat must be capable of carrying in one trip two trains, one passenger, the other goods, from two, three, or more lines of railway, or 10 trains, in all containing from 1000 to 2000 passengers, and 500 tons of goods. It is probable that the carriage of four trains would be found ample. The boat must be capable of receiving these on board and discharging them in a few minutes. He thinks it must be so arranged that the trains may run on board and on shore with as much ease as trams usually come into or leave ordinary stations. The boat must not draw any great depth of water, must be so constructed as to be incapable of rolling or pitching, and must have a minimum speed of 15 miles per hour. It must, he continues, be so arranged that passengers may during the trip from Dover to Calais have their baggage examined and passed, so that on their arrival at the opposite side of the channel they may be enabled to continue their journey without change, delay, or inconvenience; it must have waiting and refreshment rooms, and other conveniences, equal in all respects to those found at the best stations on either side of the Channel; it must be built of such materials and in such a manner as to ensure perfect safety from all ordinary dangers of the sea; and, finally, it must be shown that it will necessarily be commercially successful.

In making his estimate of expenditure and returns, Mr. Egerton has been very liberal in his allowance for contingencies; so there need be no fear of the results being less favourable than anticipated, but upon this point those interested can readily form their own opinions after perusing his admirable little pamphlet—"A Channel Steam Ferry"—being a novel construction of vessel for transporting railway trains loaded with passengers, from England to France, so that travellers may go from London to Paris, and vice versa, without change of carriage. Invented by Hugh A. Egerton, of Banbury. Published by Folkard and Sons, Devonshire-street, Queen-square, London—in which full descriptions, with the necessary diagrams, of the proposed ferry are given. It is shown that whether the boat be in a heavy beam sea, or running completely across the waves, the motion will be alike insignificant; indeed it may safely be predicted, except in the former case, the motion will be quite inappreciable, whilst with 14-ft. waves coming full on her sides a very trifling vertical movement is all that will be felt. Mr. Egerton's object has been to obtain a roomy structure, with the stability and

safety of the largest class of ship, without exceeding the weight and cost of a comparatively small one, and this object he seems to have completely attained.

FOREIGN MINING AND METALLURGY.

The Committee of French Forgemasters has published a note to the effect that one encouraging feature in the French iron trade is the now "nearly certain fall" in coal in the North and East of France—a fall which will enable the cost price of iron to be brought in harmony with selling prices. It is not at all admitted, however, by the coalowners that this anticipated fall will really take place; on the contrary, it is argued that the winter will bring with it greater firmness in prices. At the same time, there can be little doubt that to secure large orders sensible abatements in prices would be submitted to. Meanwhile, the general tone of almost all the French coal basins is one of sustained firmness.

The Union of German Iron and Steel Manufacturers, in a memorial to the Government on the subject of Iron duties, states that the capital invested in these branches of industry is equivalent to about 150,000,000, and that about 2,000,000 of German subjects are dependent for their subsistence on the same. The memorial urges that the abolition of the duties should be postponed for at least five years, at the end of which period it is hoped that more favourable conditions of trade will render their renewal unnecessary.

Several pitowners in the Ruhr (Rhine) district have advised the manufacturers whom they supply that they will be compelled to advance their prices for coal 3s. per ton from to-day. An indication of the decline of German coal prices this year is given by the following statistics. The deliveries from the Government mines in Westphalia at the end of the second quarter of 1874 amounted to about 3,500,000 tons, and the declared value was about 2,041,760. For the same period this year the deliveries amounted to 4,000,000 tons, while the declared value was only 1,361,579, showing a decline in price equal to about 33½ per cent.

The Belgian coal trade has maintained the slight advance which recently occurred in prices. There has been a rather sustained demand observable for coal on Parisian account. The outlet, however, for coal for industrial purposes has continued somewhat restricted. The extinction of a rather considerable number of blast-furnaces shows that Belgian metallurgical industry is still in a precarious condition, and this fact, of course, tells adversely upon the Belgian coal trade. Under these circumstances it is to be feared that the slight animation now observable in the trade is only temporary, and that it is due to the active preparations which consumers are making in anticipation of a winter which may perhaps prove a rigorous one. The United Collieries Company of the Basin of Charleroi commenced the payment on Monday of a dividend for 1874-5 at the rate of 16s. per share. The Masses Diarbois Collieries Company has been also paying a dividend for 1874-5 at the rate of 5s. per share.

The imports of pig-iron into France in the first nine months of this year show an increase of 89,000 tons as compared with the corresponding period of 1874; on the other hand, the exports of manufactured iron from France have not increased, having declined, on the contrary 27 per cent. We may infer from this that the large quantity of foreign pig imported was purchased to the detriment of the owners of French blast-furnaces, who could not and would not produce at a loss, and who accordingly closed their works at the commencement of this year. The exports of iron from France in the first nine months of this year presented a decrease of 53,000 tons, or 27 per cent., as compared with the corresponding period of 1874. As regards the current aspect of the French iron trade, it may be added that the demand has continued feeble upon all the markets; prices have been only maintained because they could not well fall any further. Taking a general view of matters, it may be affirmed that there is scarcely anything new to report.

The Belgian iron trade continues to exhibit considerable dullness. A contract has been let for Bessemer steel tyres, required for the Belgian State Railways; some German competitors appeared in the field on this occasion. The tenders for tyres for carriage wheels ranged between 10s. 14s. 6d. and 14s. 8s. per ton; the last-named price was that required by Krupp, of Essen. The lowest tender, 10s. 16s. 10d. per ton for tyres for locomotive wheels was submitted by the Ougrée Ironworks; the highest tender, 12s. 17s. 9d. per ton, was submitted by the Bochum Company. Altogether seven lots of tyres were tendered for upon this occasion, and contracts for them were secured by the John Cockerill Company, the Angleur Steel-works Company, and the Ougrée Ironworks Company. A contract for 2700 tons of Bessemer steel rails, to be delivered in the course of 1876 to the Charles Louis of Galicia Railway, is about to be let; the rails have to be delivered at Cracow. The Prince Imperial Rodolphe Railway Company is also about to let a contract for 1200 Bessemer steel tyres. The attention of Belgian industrialists has been directed to these adjudications, but having regard to the rates now current for steel in Belgium they have not much hope or expectation of competing successfully. The dividend of the John Cockerill Company for 1874-75 is at the rate of 2s. per share, as compared with 5s. per share distributed for 1873-74. The profit realised in 1874-75 amounted to 64,801. The turn over of 1874-75 was 1,377,325. The company was well supplied with Belgian minerals last year. The supply of manganiferous minerals, obtained from Carthagena, was also in excess of the requirements of the works. The company benefited

in its iron manufacturing department from some good contracts obtained before the recent fall in prices; the directors still consider, however, that the current rates of wages are too high. A market for the steel tyres made by the company has been found in England. The company's construction workshops were not at all too well employed in the past financial year; the boiler works were, however, fairly occupied.

The Paris copper market has been in rather a languishing state; there has not been any very striking change in quotations, but the general tone of business has been feeble. Chilean bars have made 87½ 10s.; ditto ordinary descriptions, 85½ 10s.; ditto in ingots, 89½ 10s.; English tough cake, 89½ 10s.; and pure Corocoro minerals, 86½ per ton. Copper has been a little firmer at Marseilles. The German copper markets have presented a little more animation, in consequence of numerous transactions—principally on consumption account; prices have, however, scarcely varied. There has not been much business passing in tin at Paris, and prices have scarcely varied. Banca, delivered at Havre or Paris, has made 94½; Straits ditto, 90½; and English, delivered at Havre or Rouen, 90½ per ton. At Rotterdam tin has been feeble, the demand having been languid. Nevertheless, holders have remained firm, and prices have been maintained, especially for Banca. Some transactions have taken place in disposable Banca at 52½ fls. As regards Billiton, sellers have shown themselves a little more easy at Rotterdam, and several lots have changed hands at 50½ fls. The German tin markets have been generally firm. A decline has occurred in lead at Paris; the current price is 23½ 4s. per ton. At Marseilles lead has ruled very quiet. The tendency of the German lead markets has also been feeble. The Paris zinc market has been pretty well supported; transactions have, however, been only limited. Rolled Vieille Montagne zinc has made 32½ per ton at Marseilles. At Breslau zinc has been firm, but without much business.

COAL-CUTTING MACHINERY.—A petition was heard on Wednesday before the Judicial Committee of the Privy Council, on behalf of Messrs. Firth and North, for a prolongation of their patent for cutting and getting coal from mines. Mr. Aston, Q.C., on behalf of the petitioners, stated that a patent had been granted in 1866, but that since that date the petitioners had only received 500l. as royalties, and against a total expenditure of 20,000l. had only received 2000l. as reimbursement. The machine had met with the general disapproval of coal miners, and had only within the last three years been judged by them with impartiality. In fact, at one time the feeling against working the machine had risen so high that prayers were offered by the miners at their prayer meetings against the adoption of the machine, and several men had frequently declared that they would not be so degraded as to walk behind a machine. Mr. Fredk. Bramwell, a member of the Council of Civil Engineers, and many other practical gentlemen were called in support of the machine, and all testified to the great economy and safety which would arise from its adoption. Sir Montague Smith, on behalf of their lordships, said that they were convinced of the great value of the machine, and that, as Mr. Bramwell had said, it deserved a world-wide fame. In consideration of the great loss which had been sustained by the petitioners, and the prospects of success before them in certain mines, their lordships would advise Her Majesty to grant a prolongation of the Letters Patent for seven years.

SPONTANEOUS COMBUSTION OF COAL.—At the Newcastle Chemical Society, Mr. John Pattinson, the President, said that a subject of very great importance to this district is now being investigated by a Royal Commission. I allude to the subject of the spontaneous combustion of coal in coal-laden vessels. There has lately been a considerable increase in the number of cases of fire arising from this cause. From statistics, collected by Mr. R. C. Rundell, and given by him in a report to the Underwriters' Association of Liverpool, it appears that, taking the number of vessels carrying upwards of 500 tons of coal which have sailed from the United Kingdom for ports south of the equator during the first nine months of the years 1873 and 1874, the number of casualties from spontaneous combustion was 23, or about 2 per cent. of the total number of vessels in 1873, and 59, or about 4 per cent., in 1874. The statistics further show that the fires are not confined to one kind of coal, but have occurred in most, if not all, kinds exported from all parts of the United Kingdom. The theory which attributes spontaneous combustion to the presence of pyrites in the coal is consistent with the recent increased number of cases, if we consider that owing to the extraordinary demand for coals, and the high price of labour, the coals were more likely to be shipped without being so carefully freed from "brasses" or iron pyrites in later years than they were formerly. On the other hand, Richter has pointed out that in the kinds of coal he experimented with, the coal which contains most pyrites is not that which is most liable to spontaneous combustion; and his researches have shown that atmospheric air is rapidly absorbed by coal, and that the oxygen thus absorbed, probably afterwards, combines with the organic constituents forming carbonic acid and developing heat. In all probability the heat which gives rise to spontaneous combustion is developed both by the oxidation of iron pyrites as well as by the oxidation of the carbonaceous constituents of the coal; and that in the holds of vessels where large cargoes of coal lie unventilated, or but imperfectly ventilated, this heat accumulates, and may ultimately be high enough to set fire to the cargo. The whole subject requires further investigation, and the Royal Commission now formed will, no doubt, not only elicit valuable information as to the causes of these sad disasters, but also suggest means of preventing them.

PRODUCING WHITE LEAD.—The essential features of the invention of Mr. L. BRUNLEW, of Newcastle-on-Tyne, consist in firstly effecting the division of the lead to be converted into white lead and then subjecting the same contained in a suitably arranged chamber to the action either of acetic acid or of acetate of lead, or of mixtures of the same, and also to the action of air and of carbonic acid; the chamber or chambers being so constructed that a rocking motion may be given to them in order that the white lead formed upon the surface of the lead may be removed by the action of the solution contained therein, and a fresh surface be thereby exposed.

Coal-Getting by Patent Hand-Worked Machinery, WITHOUT THE USE OF GUNPOWDER.

- No. 1 MACHINE - THE HAND COAL-CUTTER, for under-cutting.
2 " - THE ROCK & COAL PERFORATOR, for drilling.
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The use of these Machines, while doing away with the greatest source of danger, economises at least Fifty per cent. of the labour required in Getting Coal.

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They are also applicable to the galleries of mines, for which a special machine has been designed.

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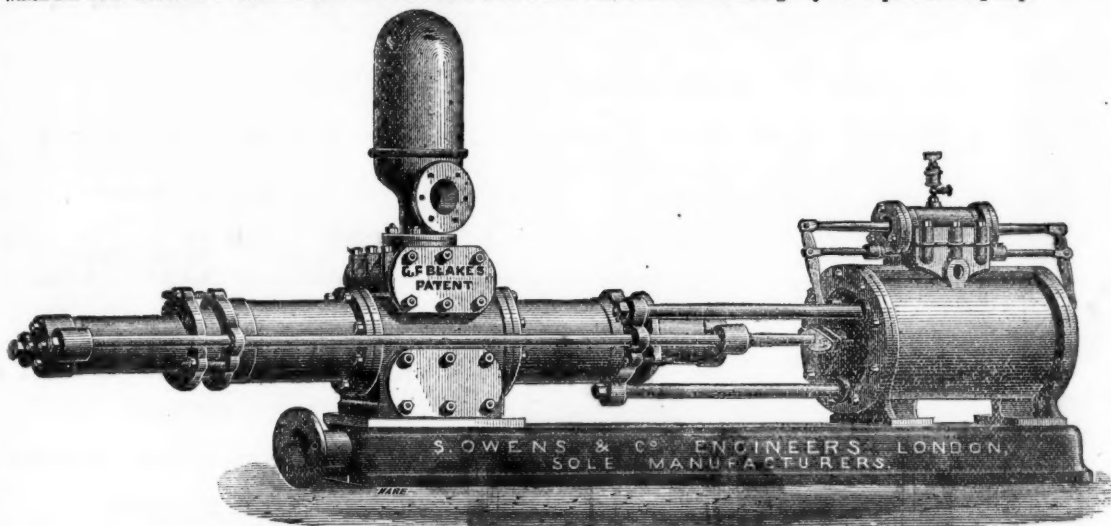
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SOLE MAKERS FOR GREAT BRITAIN.

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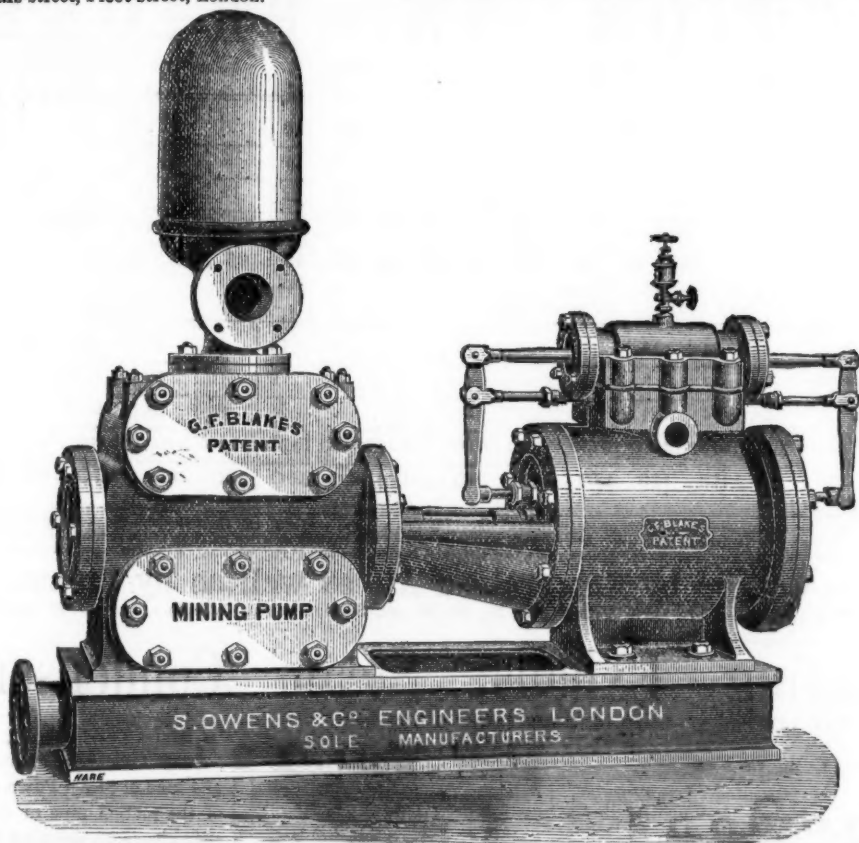
Hydraulic and General Engineers, Whitefriars-street, London;
And at 195, Buchanan-street, Glasgow (W. HUME, AGENT).

These PUMPS from their SIMPLICITY, RELIABILITY, DURABILITY, and ECONOMY are SPECIALLY SUITED FOR MINING PURPOSES, where large quantities of water require to be raised from great or medium depths with CERTAINTY. They are double-action in their construction, throwing a constant stream of water, can be made of any stroke to suit the space in which they have to work, can be arranged with any combination of steam and water cylinders to suit the pressure and lift against which it is desired to work them, are made of the very best materials and highest class of workmanship, and all working parts can be readily got at by any ordinary workman, and replaced if necessary by a duplicate part (all such being interchangeable) in the shortest possible time. For situations where gritty and sandy water has to be pumped the DOUBLE-PLUNGER PATTERN is recommended. Where space is limited the PISTON PUMP is better suited, a novel feature of which is the PATENT REMOVEABLE LINING, which can be removed in a few minutes and substituted with a new one, without disturbing any other part of the pump.



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S. OWENS and CO., in placing the BLAKE STEAM PUMP before the mining world, believe they are offering the BEST, MOST RELIABLE, and ECONOMICAL PUMP that has yet been made, and solicit an inspection of various sizes in operation at their works, Whitefriars-street, Fleet-street, London.



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Any combination of these Pumps may be had to suit circumstances. The following are some of the SIZES SUITABLE FOR MINING PURPOSES:—

Diameter of steam cylinders.....Inches	12	12	12	12	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	24	24
Diameter of water cylinders.....Inches	3	4	5	6	4	5	6	4	5	6	8	4	5	6	8	5	7	8	9	6	8
Length of stroke.....Inches	18	18	18	24	24	24	24	24	24	24	24	24	30	30	30	30	36	36	36	42	42
Number of strokes per minute.....Inches	30	30	30	30	25	25	25	22	22	22	22	22	22	22	22	20	20	17	17	15	15
Quantity in gallons per hour, approximately.....	1440	2610	4200	5040	2940	4620	6000	2646	4158	5940	10620	2646	5160	7000	13280	4586	9000	12360	15660	6720	12000

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PARIS EXHIBITION, 1867.



VIENNA EXHIBITION, 1873.



LONDON EXHIBITION, 1874.



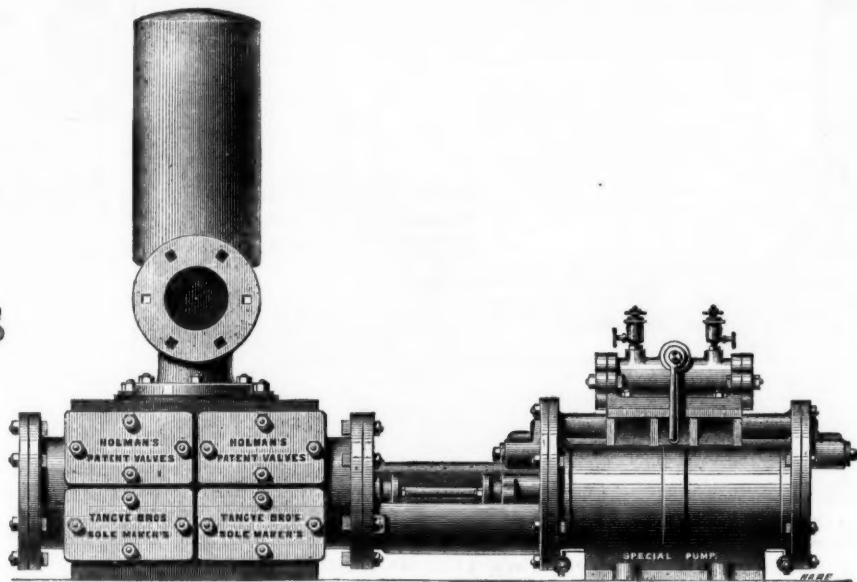
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GREAT REDUCTION IN PRICES.

The following sizes are suitable for low and medium lifts:—

Diameter of Steam Cylinder ...In.	3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	8	8	8	8	8	9	9	9	9	9	10	10
Diameter of Water Cylinder ...In.	1½	2	3	4	3	4	5	3	4	5	6	3	4	5	6	7	4	5	6	7	8	5	6	7	8	9	5	6
Length of StrokeIn.	9	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	12	18	24	12	12
Gallons per hour	680	815	1830	3250	1830	3250	5070	1830	3250	5070	7330	1830	3250	5070	7330	9750	3250	5070	7330	9750	13,000	5070	7330	9750	13,000	16,519	5070	7330
Price	£ 16	18	20	25	22 10	27 10	32 10	25	30	35	40	30	35	40	45	50	40	45	50	55	65	50	55	60	70	85	55	60

CONTINUED.

Diameter of Steam Cylinder..In.	10	10	10	10	12	12	12	12	12	12	14	14	14	14	14	14	16	16	16	16	16	18	18	18	18
Diameter of Water Cylinder..In.	7	8	9	10	6	7	8	9	10	12	7	8	9	10	12	14	8	9	10	12	14	9	10	12	14
Length of StrokeIn.	12	18	24	24	18	18	18	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Gallons per hour	9750	13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	30,000	9750	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000	16,519	20,000	30,000	40,000
Price£	55	75	90	100	75	80	85	110	120	140	110	120	130	140	160	180	140	150	160	180	200	190	200	220	240

Intending purchasers of Steam Pumps would do well to observe the great length of stroke, short steam cylinder, and short piston of the “Special” Steam Pump, as compared with the short stroke, long steam cylinder, and long piston of the Pumps of other makers, as the efficiency and durability of the machine, and the space occupied by same, greatly depend upon this. The advantage of long strokes will be obvious when purchasers are reminded that each set of suction and delivery valves of a “Special” Steam Pump with 24 in. stroke, running at 120 ft. per minute, would open and close only 30 times per minute, as against 120 times per minute in a Pump with only 6 in. stroke performing same duty.

The “Special” Steam Pump can be worked by Compressed Air as well as by Steam.

HUNDREDS of these PUMPS are USED for HIGH LIFTS IN MINES, for which purpose they are made with 21, 24, 26, 28, 30, and 32-inch Steam Cylinders, and 36 48 and 72-inch Strokes.

Holman's Patent Self-acting Exhaust Steam Condensers,

FOR ALL KINDS OF STEAM PUMPS AND HIGH-PRESSURE STEAM ENGINES.

Turns waste steam into
GREAT POWER.

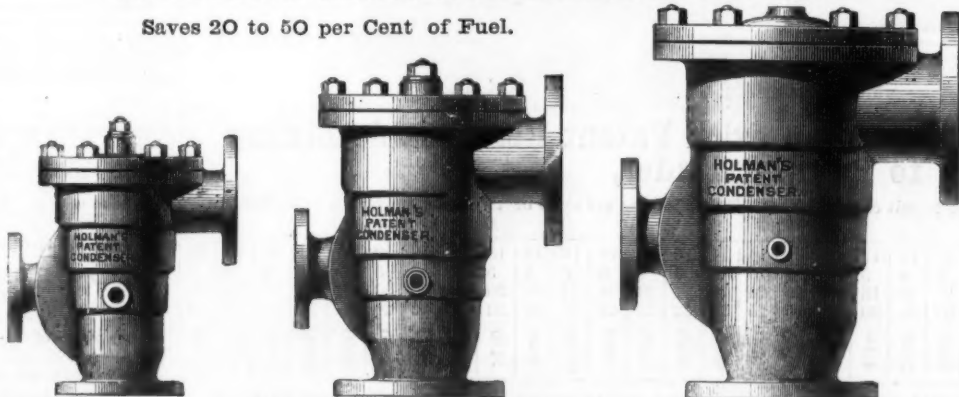
REQUIRES NO THREE-WAY COCKS,
CHECK, or REGULATING VALVES.

SAVES HALF ITS COST IN PIPES AND
CONNECTIONS.

PREVENTS ALL ESCAPE OF STEAM IN
MINES OR ELSEWHERE.

REQUIRES NO EXTRA SPACE.

Saves 20 to 50 per Cent of Fuel.



These Condensers are made to suit any size and kind of Steam Pump. They form a part of the suction pipe of the Pump, and while they effectually condense the exhaust steam, they produce an average vacuum of 10 lbs. per square inch on the steam piston, increasing the duty of the Engine, and effecting a saving in fuel of from 20 to 50 per cent.

In Mining operations these Condensers will be of great value.

All Boiler Feeders are recommended to be fitted with these Condensers, as not only is the exhaust steam utilised in heating the feed water, but is returned with it into the boiler.

The following Testimonial gives one Example of the Power Gained by the action of Holman's Patent Condensers:—

MORLEY COLLIERY, WIGAN, October 16th, 1874.

Messrs. TANGYE BROTHERS AND HOLMAN.

GENTLEMEN,—I have great pleasure in recording my entire satisfaction with the working of the Holman's Patent Steam Pump Condenser which you have supplied to us. The complete condensation of the steam is, apart from its value in the strict economic sense, a most valuable feature in the drainage of underground work.

Price from 30s. to 40s. per inch diameter of Steam Cylinder, according to the relative Diameter of Pump for which Condenser is required.

ings. The perfect manner in which this important result is accomplished by your Condenser is extremely creditable to you, and merits the thanks and commendation of the Mining Engineer. When we start the “Special” Steam Pump the Condenser commences working automatically, and maintains a constant vacuum of 10½ lbs. per square inch, even when we run the Pump upwards of 80 strokes (106 feet) per minute. It may perhaps be interesting to you to know that when we were running the Pump at 84 strokes (168 feet) per minute, the steam gauge

indicating a steam pressure of 36 lbs. per square inch, 80 yards from the Pump, and the Condenser vacuum gauge on the exhaust pipe indicating a steady vacuum of 21½ inches, I turned the exhaust steam from the Condenser into the atmosphere, when the speed at once fell to 44 strokes per minute. The working economy thus shown is really so great that the cost of the Condenser must be saved in a very short time.

(Signed)

J. THOMPSON.

NORTH OF ENGLAND HOUSE
SOUTH WALES HOUSE

TANGYE BROTHERS AND RAKE, ST. NICHOLAS BUILDINGS, NEWCASTLE-ON-TYNE.
TANGYE BROTHERS AND STEEL, Tredgar Place, NEWPORT, Mon.; and Oxford Buildings, SWANSEA.

THE "LEVET" ROCK DRILL.

SUPERIOR TO ALL OTHERS.



COPY OF TESTIMONIAL FROM THE ENGINEER, BLANZY MINES, FRANCE. Feb. 25, 1875.

I hereby certify that the new Rock Drill of C. Levet's System has worked at the Blanzey Mines since Nov. 20 without there being the slightest necessity for repair. Its results up to this date have been superior to the other Rock Drills employed in the said mines.

(Signed)
THE ENGINEER OF THE MINES, POUYMAIREAU.

THE SACCHARUM WORKS, SOUTHAMPTON.
ANGLO-BAVARIAN BREWERY.

GENTLEMEN.—We have much pleasure in stating that the "STANDARD" Steam Pumps supplied to us for these works, and for our Brewery at Shepton Mallet, give us entire satisfaction. The two first we had from you have been in use for 12 months, and they are still in good working order. THEY ARE ENTIRELY FREE FROM THE NOISE IN WORKING WHICH ALL OTHER STEAM PUMPS WE HAVE TRIED ARE SUBJECT TO; they throw a large quantity of liquor fully equal to the amount named in your Circular, and we can confidently recommend them in preference to any other pumps we have used.

Yours truly,
HILL, GARTON, AND CO.



FOR PARTICULARS OF

ROCK DRILLS, AIR COMPRESSORS, COAL CUTTERS, "STANDARD" PUMPS,

AND ALL OTHER MINING MACHINERY, APPLY TO

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Every description of Leather, India-rubber, and Gutta-percha for Engineering and General Mechanical purposes.

The ONLY PRIZE awarded for "FUEL ECONOMISERS" at the Vienna, Paris, and Moscow Exhibitions, was given to
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AN INDISPENSABLE APPENDAGE TO STEAM BOILERS.



MOSCOW, 1872.

In operation to
upwards of
2,550,000 h.p.



VIENNA, 1873.

SAVES
20 to 25 per cent.
of Fuel.



PARIS, 1867.

EDWARD GREEN AND SON, Engineers and Sole Makers, 14, St. Ann's-square, Manchester.

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RICHARD MOTTRAM, SECRETARY.

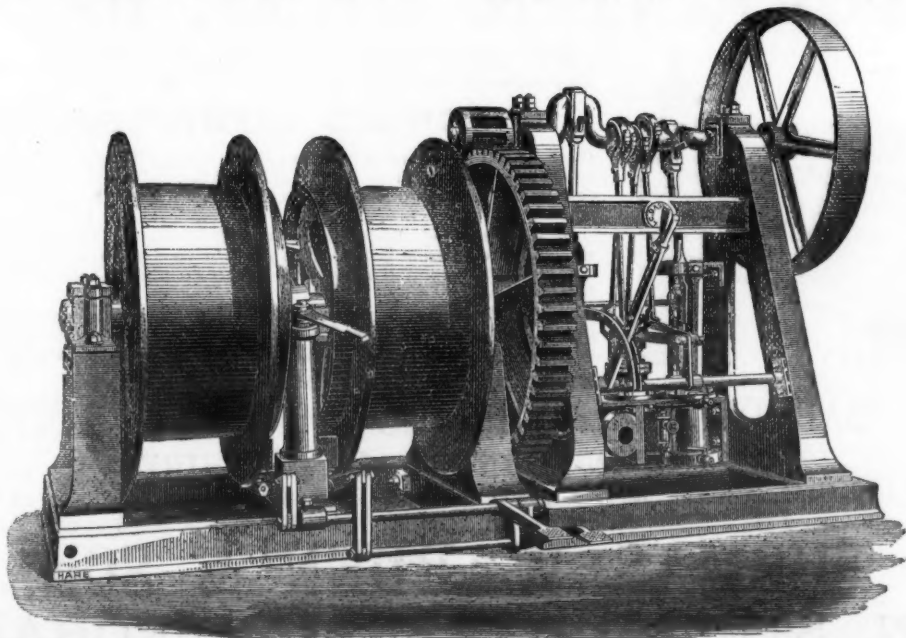
For Sinking Shafts, Cutting Tunnels and Levels, and General Rock Blasting Operations, by contract, and for the Sale or Letting on hire of the

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IMPROVED DESIGN of Engine for HAULING, for use with either Steam or Compressed Air.

Takes less room, and can be supplied for less money, than any other Engine of same power.

May also be had with single drum for winding.

TO COLLIERY PROPRIETORS, MINING ENGINEERS, &c.

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WITH
PATENT FITTED AXLES AND PEDESTALS.



Also,
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Skis for
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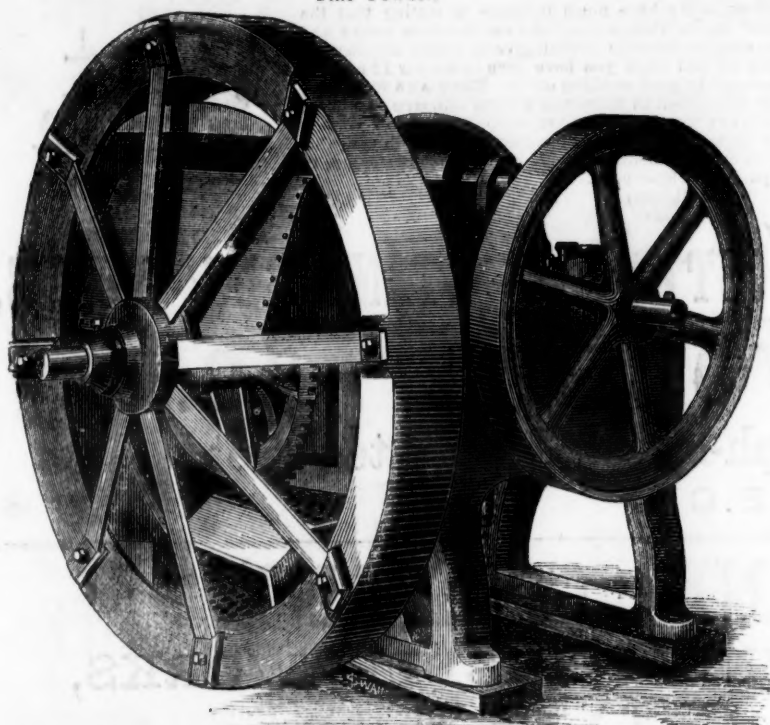
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WITH NEW PATENT CRUSHING JAWS,

BY WHICH ORES OF EVERY DESCRIPTION CAN BE
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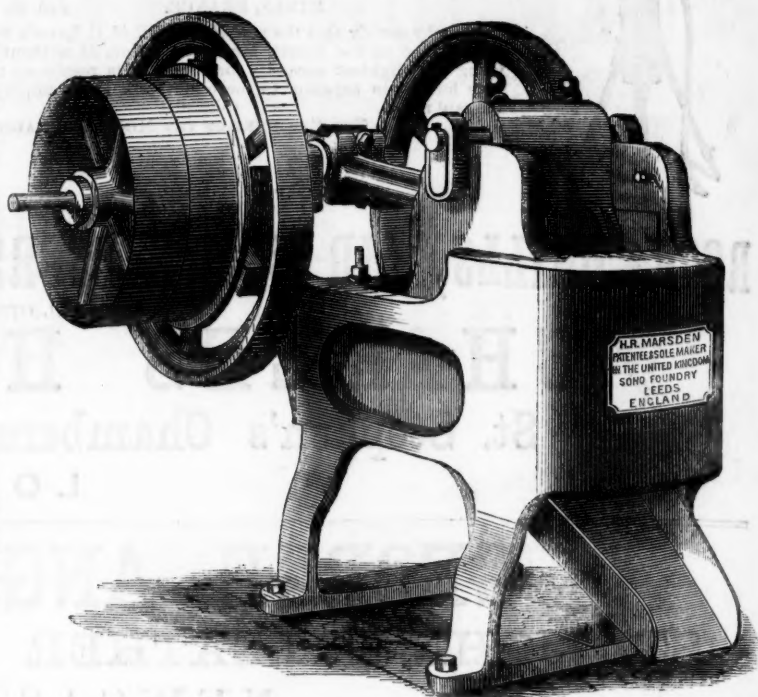


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Stone Breakers.

Machines fitted with
H. R. M.'s renowned
PATENT CUBING
JAWS, by which stone
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GREAT ECONOMY
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For particulars, estimates,
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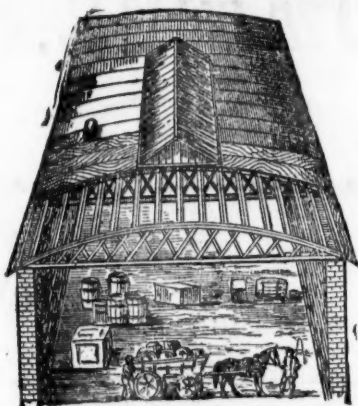
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The above drawing shows the construction of this cheap and handsome roof, now
much used for covering factories, stores, sheds farm buildings, &c., the principal
of which are double bow and string girders of best pine timber, sheathed with 1/2 in.
boards, supported on the girders by purlins running longitudinally, the whole
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They can be made with or without top-lights, ventilators, &c. Felt roofs of any
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INODOROUS FELT for lining damp walls and under floor cloths.
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It may be had of all dealers in leather, and of—

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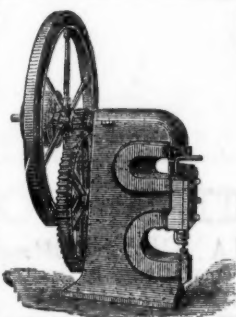
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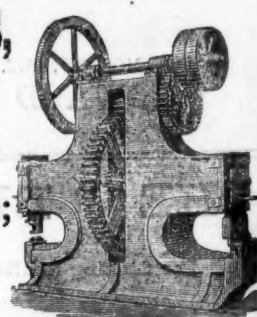
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Desire to call the attention of Steam Users to some important improvements re-
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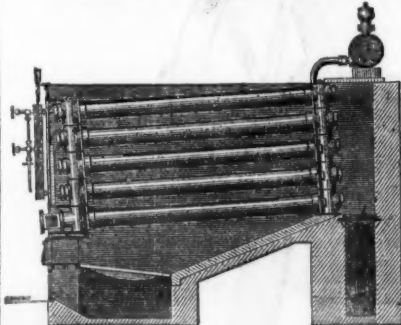
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